

L0316000051--Cook County
Clean Harbors of Chicago, Inc.
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RCRA Permits

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CERCLA
Environmental Priorities Initiative
Preliminary Assessment
Report



Illinois Environmental
Protection Agency
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I. EXECUTIVE SUMMARY

Clean Harbors of Chicago is a commercial storage and treatment facility using physical and chemical methods to treat selected wastes. Primary treatment operations include chemical precipitation, coagulation, filtration, and stabilization/fixation. Some wastes require pre-treatment and these operations include neutralization, chemical oxidation/reduction, oil recovery and other pre-treatment. Hazardous waste codes handled at Clean Harbors of Chicago include D-wastes, K-wastes and F-wastes (see Table 2).

Based on information acquired during the Preliminary Review, a list of Solid Waste Management Units (SWMUs) was completed. The list of SWMUs included drum storage areas, laboratories, loading/unloading areas, process units, landfill, old lagoons and a wastewater treatment system. The Visual Site Inspection identified additional SWMUs and some SWMUs were grouped into specific processes. Spill information from Illinois EPA Office of Chemical Safety files did not identify any additional areas of concern.

The final list of Solid Waste Management Units identified are the result of the Preliminary Review, Visual Site Inspection and information provided by the facility. This list contains 36 SWMUs (see Table 1), which are described in Section III and shown in Attachment A and B. Based on a review of the information acquired and summarized for this site, the following generalizations can be made:

- No further action is recommended for the drum storage areas (SWMU Nos. 1, 2 and 3), drum staging area (SWMU No. 4), Safety-Kleen Unit (SWMU No. 5), former sludge storage pad (SWMU No. 8), organic laboratory (SWMU No. 12), storage tank (SWMU No. 23), treatment unit (SWMU No. 25) and filter presses (SWMU Nos. 34 and 35).
- Soil sampling is recommended for the outside drum storage areas (SWMU Nos. 7 and 9), auxiliary basin #3 (SWMU No. 15), landfill (SWMU No. 16), former disposal basins (SWMU Nos. 17 thru 21), treatment unit (SWMU No. 22), oil contaminated storage area (SWMU No. 24) and unloading pad (SWMU No. 32).
- Soil sampling is recommended for the process sewer system (SWMU No. 6), carbon absorption system (SWMU No. 10), inorganic laboratory (SWMU No. 11), oil/water separator (SWMU No. 13), former 10,000 gallon sludge feed tank (SWMU No. 14), sludge tank (SWMU No. 26), storage tanks (SWMU Nos. 27 thru 30), receiving tanks (SWMU No. 31), sludge dewatering system (SWMU No. 33) and drum storage area (SWMU No. 36) if the integrity of the sumps, floor drains and/or sewer lines has been breached.

TABLE 1

LIST OF SOLID WASTE MANAGEMENT UNITS

Clean Harbors of Chicago, Inc.
Chicago, Illinois

Hazardous/Solid Waste Storage Areas

SWMU No. 1 Acid Drum Storage Area
SWMU No. 2 Alkaline Drum Storage Area
SWMU No. 3 Organic Drum Storage Area
SWMU No. 4 Drum Staging Area
SWMU No. 7 Outside Drum Storage Area 1
SWMU No. 8 Former Sludge Storage Pad
SWMU No. 9 Outside Drum Storage Area 2
SWMU No. 14 Former 10,000 Gallon Sludge Feed Tank
SWMU No. 23 Special Waste Storage Tank
SWMU No. 24 Oil Contaminated Soil Storage Area
SWMU No. 26 13,000 Gallon Concrete Sludge Tank
SWMU Nos. 27-30 Hazardous and Solid Waste Storage Tanks
SWMU No. 31 7,000 Gallon Concrete Receiving Tanks
SWMU No. 36 Inside Drum Storage Area

Treatment Units

SWMU No. 10 Carbon Absorption System
SWMU No. 13 Oil/Water Separator
SWMU No. 22 Chemical Reduction/Oxidation Pretreatment System
SWMU No. 25 Chemical Treatment Unit
SWMU No. 33 Sludge Dewatering System

Miscellaneous

SWMU No. 5 Safety-Kleen Unit
SWMU No. 6 Process Sewer System
SWMU No. 11 Inorganic Laboratory
SWMU No. 12 Organic Laboratory
SWMU No. 15 Auxiliary Basin #3
SWMU No. 16 Landfill
SWMU No. 17 Former Temporary Pickle Liquor Basin
SWMU No. 18 Former Pickle Liquor Disposal Site
SWMU No. 19 Former Permanent Pickle Liquor Basin
SWMU No. 20 Former Oil Basin
SWMU No. 21 Former Lime Basin
SWMU No. 32 Truck Unloading Pad
SWMU No. 34 Former Rotary Filter Press
SWMU No. 35 Mobile Filter Press

II. GENERAL DESCRIPTION

A. FACILITY DESCRIPTION

Clean Harbors of Chicago Inc. is located on a 25.5 acre parcel of land in Cook County, within the East 1/4 of Section 23 and the West 1/2 of Section 24 in Township 37 North, Range 14 East (see Figures 1 and 2). (Clean Harbors uses the east 1/3 of the pier between slip number 4 and slip number 6, on Lake Calumet). The facility address is 11800 South Stony Island Avenue Chicago, Illinois and is owned by Clean Harbors Environmental Services Companies, 1200 Crown Colony Drive, Quincy, Massachusetts. Clean Harbors leases the pier from the Chicago Port Authority, now called the International Port District.

Operations at this location began in the early 1970's by International Hydronics Corporation, also known as Hyon Corporation. Hyon used the pier for the storage, treatment and disposal, in lagoons, of hazardous waste and wastewater. (The lagoons were filled with pickle liquor waste then lime was added to stabilize the pickle liquor and produce a sludge). These operations used the eastern two-thirds of the present Clean Harbors pier. The west one-third of the pier was filled in with stabilized acid-lime sludge that was excavated from the lagoons. Hyon ceased operations sometime after June 29, 1976, with Envirotherm taking over operations until 1980. SCA Chemical Services bought out Envirotherm, but did not use any of the pier currently leased by Clean Harbors. The site was leased by Chem-Clear in 1980 after the lagoons and landfill were covered over with unknown material. Chem-Clear operated at the site until 1989, when ownership changed to Clean Harbors of Chicago, Inc.

B. PROCESS DESCRIPTION

Clean Harbors of Chicago began operations at this facility in 1981, with current operations in the treatment of selected chemicals by physical and chemical methods. The company also provides temporary storage of hazardous wastes prior to off-site shipment to a recovery, reclaiming, or disposal facility. The waste accepted for treatment include: spent pickle liquor, corrosive metal cleaning washes and stripping baths, non-hazardous sludges for dewatering, non-hazardous wastewater from cleaning tanks, non-hazardous wastes from the flushing of coolant systems, battery industry waste, and the waste from the washing and cleaning of tanks and equipment containing alkaline or acid solutions. The waste accepted for storage only include: non-hazardous lab packs, hazardous lab packs, wastewater treatment sludge and/or other wastes from aluminum surface coating and etching, wastewater sludges

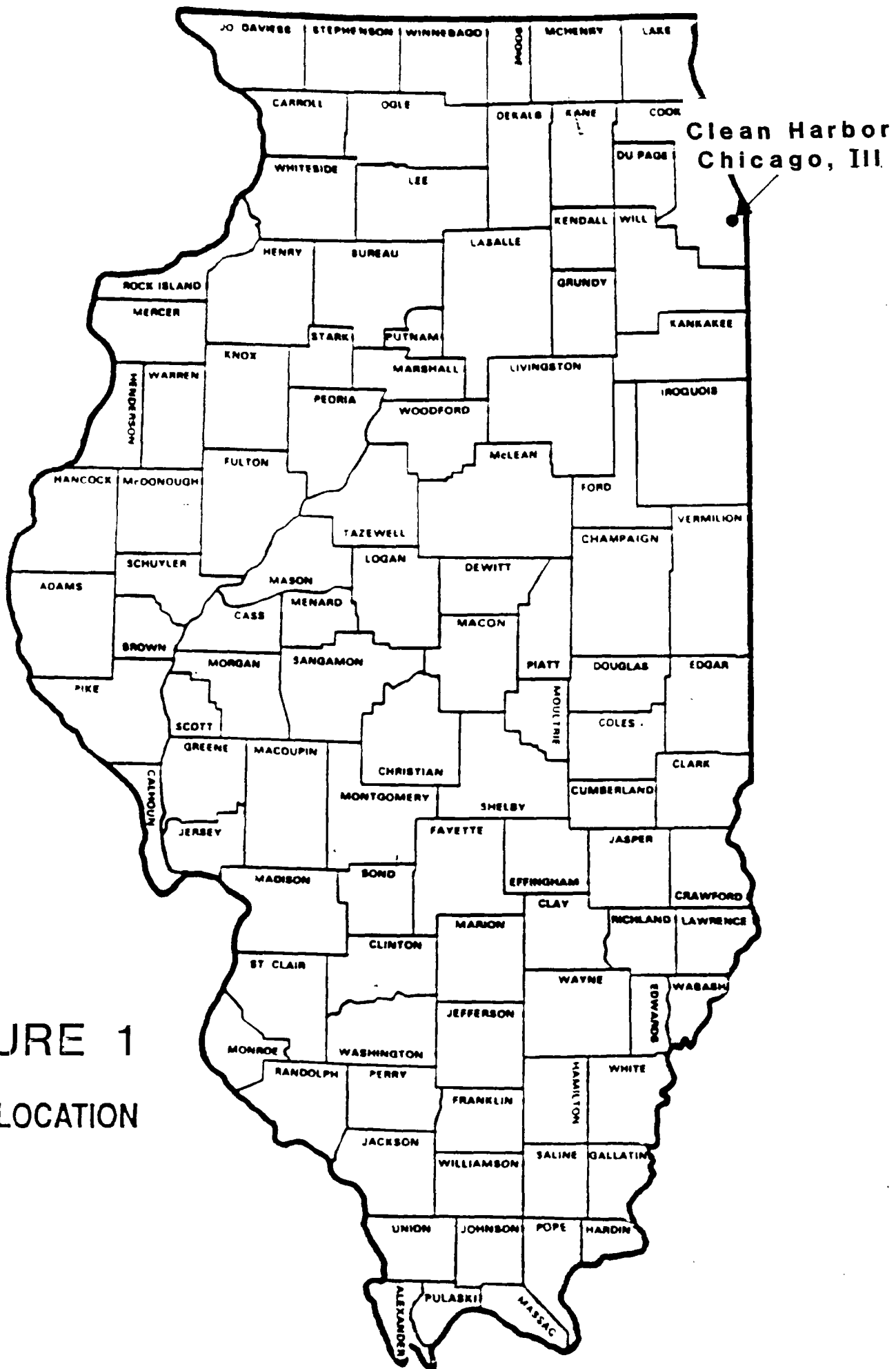


FIGURE 1
SITE LOCATION

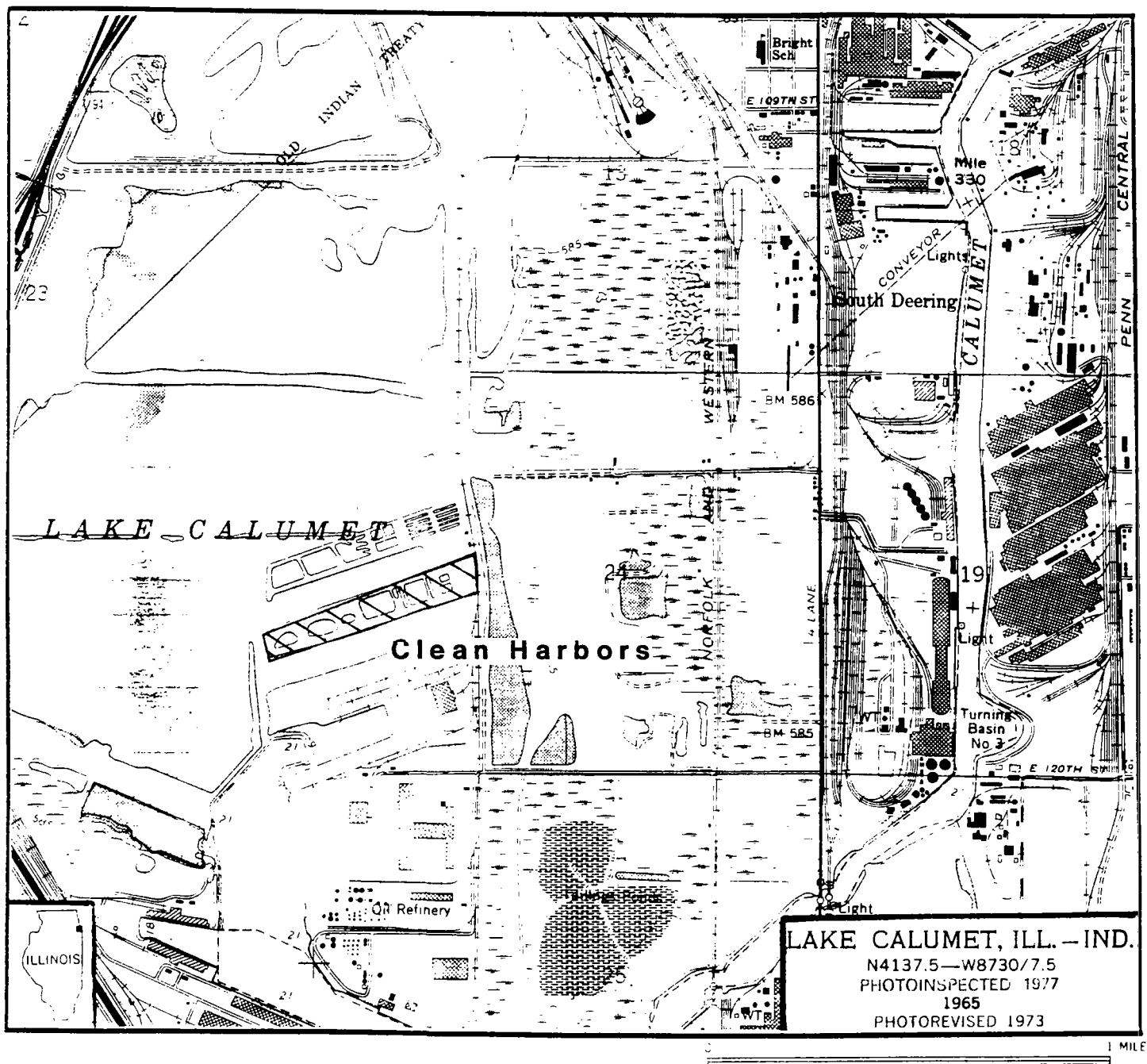


FIGURE 2

TABLE 2

CATEGORIES OF WASTE RECEIVED AT CLEAN HARBORS OF CHICAGO

<u>Waste No.</u>	<u>Description</u>
D002	A solid waste that exhibits the characteristic of corrosivity, but is not listed as a hazardous waste. (Accepted for treatment and storage).
D004	A solid waste that exhibits the characteristic of EP toxicity for arsenic at 5.0 mg/l or more. (Accepted for treatment and storage).
D005	A solid waste that exhibits the characteristic of EP toxicity for barium at 100.0 mg/l or more. (Accepted for treatment and storage).
D006	A solid waste that exhibits the characteristic of EP toxicity for cadmium at 1.0 mg/l or more. (Accepted for treatment and storage).
D007	A solid waste that exhibits the characteristic of EP toxicity for chromium at 5.0 mg/l or more. (Accepted for treatment and storage).
D008	A solid waste that exhibits the characteristic of EP toxicity for lead at 5.0 mg/l or more. (Accepted for treatment and storage).
D009	A solid waste that exhibits the characteristic of EP toxicity for mercury at 0.2 mg/l or more. (Accepted for treatment and storage).
D010	A solid waste that exhibits the characteristic of EP toxicity for selenium at 1.0 mg/l or more. (Accepted for treatment and storage).
D011	A solid waste that exhibits the characteristic of EP toxicity for silver at 5.0 mg/l or more. (Accepted for treatment and storage).
D018	A solid waste that exhibits the characteristic of EP toxicity for benzene at 0.5 mg/l or more. (Accepted for storage only).
D019	A solid waste that exhibits the characteristic of EP toxicity for carbon tetrachloride at 0.5 mg/l or more. (Accepted for storage only).
D020	A solid waste that exhibits the characteristic of

- EP toxicity for chlorodane at 0.03 mg/l or more.
(Accepted for storage only).
- D021 A solid waste that exhibits the characteristic of
EP toxicity for chlorobenzene at 100.0 mg/l or
more. (Accepted for storage only).
- D022 A solid waste that exhibits the characteristic of
EP toxicity for chloroform at 6.0 mg/l or more.
(Accepted for storage only).
- D023 A solid waste that exhibits the characteristic of
EP toxicity for o-cresol at 200.0 mg/l or more.
(Accepted for storage only).
- D024 A solid waste that exhibits the characteristic of
EP toxicity for m-cresol at 200.0 mg/l or more.
(Accepted for storage only).
- D025 A solid waste that exhibits the characteristic of
EP toxicity for p-cresol at 200.0 mg/l or more.
(Accepted for storage only).
- D026 A solid waste that exhibits the characteristic of
EP toxicity for cresol at 200.0 mg/l or more.
(Accepted for storage only).
- D027 A solid waste that exhibits the characteristic of
EP toxicity for 1,4-dichlorobenzene at 7.5 mg/l or
more. (Accepted for storage only).
- D028 A solid waste that exhibits the characteristic of
EP toxicity for 1,2-dichloroethane at 0.5 mg/l or
more. (Accepted for storage only).
- D029 A solid waste that exhibits the characteristic of
EP toxicity for 1,1-dichloroethylene at 0.7 mg/l
or more. (Accepted for storage only).
- D030 A solid waste that exhibits the characteristic of
EP toxicity for 2,4-dinitrotoluene at 0.13 mg/l or
more. (Accepted for storage only).
- D031 A solid waste that exhibits the characteristic of
EP toxicity for heptachlor at 0.008 mg/l or more.
(Accepted for storage only).
- D032 A solid waste that exhibits the characteristic of
EP toxicity for hexachlorobenzene at 0.13 mg/l or
more. (Accepted for storage only).
- D033 A solid waste that exhibits the characteristic of
EP toxicity for hexachloro-1,3-butadiene at 0.5
mg/l or more. (Accepted for storage only).

- D034 A solid waste that exhibits the characteristic of EP toxicity for hexachloroethane at 3.0 mg/l or more. (Accepted for storage only).
- D035 A solid waste that exhibits the characteristic of EP toxicity for methyl ethyl ketone at 200.0 mg/l or more. (Accepted for storage only).
- D036 A solid waste that exhibits the characteristic of EP toxicity for nitrobenzene at 2.0 mg/l or more. (Accepted for storage only).
- D037 A solid waste that exhibits the characteristic of EP toxicity for pentachlorophenol at 100.0 mg/l or more. (Accepted for storage only).
- D038 A solid waste that exhibits the characteristic of EP toxicity for pyridine at 5.0 mg/l or more. (Accepted for storage only).
- D039 A solid waste that exhibits the characteristic of EP toxicity for tetrachloroethylene at 0.7 mg/l or more. (Accepted for storage only).
- D040 A solid waste that exhibits the characteristic of EP toxicity for trichloroethylene at 0.5 mg/l or more. (Accepted for storage only).
- D041 A solid waste that exhibits the characteristic of EP toxicity for 2,4,5-trichlorophenol at 400.0 mg/l or more. (Accepted for storage only).
- D042 A solid waste that exhibits the characteristic of EP toxicity for 2,4,6-trichlorophenol at 2.0 mg/l or more. (Accepted for storage only).
- D043 A solid waste that exhibits the characteristic of EP toxicity for vinyl chloride at 0.2 mg/l or more. (Accepted for storage only).
- F001 The following spent halogenated solvents used in degreasing tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; all spent solvent mixtures and blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004 or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures. (Accepted for storage only).
- F002 The following spent halogenated solvents:

tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, orthodichlorobenzene, trichlorofluoromethane, and 1,1,2-trichloroethane; all spent solvent mixtures and blends containing, before use, a total of ten percent or more (by volume) of one or more of the above listed halogenated solvents or those solvents listed in F001, F004, or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures. (Accepted for storage only).

F004 The following spent non-halogenated solvents: cresols and cresylic acid, and nitrobenzene; all spent solvent mixtures and blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002 or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures. (Accepted for storage only).

F005 The following spent non-halogenated solvents: toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol and 2-nitropropane; all spent solvent mixtures and blends, containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, or F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures. (Accepted for storage only).

F006 Wastewater treatment sludges from electroplating operations except from the following processes: (1) sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc, and aluminum plating on carbon steel; (6) chemical etching and milling of aluminum. (Accepted for storage only).

K002 Wastewater treatment sludge from the production of chrome yellow and orange pigments. (Accepted for storage only).

K003 Wastewater treatment sludge from the production of molybdate orange pigments. (Accepted for storage only).

K004 Wastewater treatment sludge from the production of

- zinc yellow pigments. (Accepted for storage only).
- K005 Wastewater treatment sludge from the production of chrome green pigments. (Accepted for storage only).
- K006 Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated). (Accepted for storage only).
- K007 Wastewater treatment sludge from the production of iron blue pigments. (Accepted for storage only).
- K008 Oven residue from the production of chrome oxide green pigments. (Accepted for storage only).
- K048 Dissolved air flotation (DAF) float from the petroleum refining industry. (Accepted for storage only).
- K049 Slop oil emulsion solids from the petroleum refining industry. (Accepted for storage only).
- K050 Heat exchanger bundle cleaning sludge from the petroleum refining industry. (Accepted for storage only).
- K051 API separator sludge from the petroleum refining industry. (Accepted for storage only).
- K052 Tank bottoms (leaded) from the petroleum refining industry. (Accepted for storage only).
- K060 Ammonia still lime sludge from coking operations. (Accepted for storage only).
- K061 Emission control dust/sludge from the primary production of steel in electric furnaces. (Accepted for storage only).
- K062 Spent pickle liquor generated by steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332) (as defined in 35 Ill. Adm. Code 720.110). (Accepted for treatment and storage).
- K084 Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds. (Accepted for storage only).
- K086 Solvent washes and sludges, caustic washes and sludges, or water washes and sludges from cleaning

tubs and equipment used in the formulation of ink pigments, driers, soaps and stabilizers containing chromium and lead. (Accepted for storage only).

- K087 Decanter tank tar sludge from coking operations. (Accepted for storage only).
- K101 Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds. (Accepted for storage only).
- K102 Residue from use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds. (Accepted for storage only).

and/or other wastes from the manufacture of inorganic pigments, wastewater treatment sludge and/or other wastes from electroplating operations, emission control dust or sludge, spent pickling liquor and other wastes from the iron and steel industry, spent solvent mixtures containing, before use, a total of ten percent or more (by volume) of those solvents listed in F001 through F005, wastes from the pharmaceutical manufacturing, wastes from ink formulation, wastes from coking operations, wastes from the tannery industry, wastes from the photoprocessing industry, wastes from the graphic arts industry, wastes from the battery industry, hazardous hospital wastes, hazardous used oils, and non-hazardous used, waste, off-specification or surplus oils.

The first procedure at Clean Harbors is to prequalify a sample from a prospective customer prior to acceptance of the customer's waste on-site. The generator will complete a waste material profile sheet and submit supporting documentation such as lab analyses, material safety data sheets, and/or other literature. A sample of the waste is submitted by the generator and is analyzed in Clean Harbors' Chicago or Braintree, Massachusetts laboratory. A determination is made on whether or not the waste can be accepted according to the prequalification analysis (see Table 3). If the waste is accepted, the generator can begin shipping waste to the site in either drums or tanker trucks. Once the waste is received at Clean Harbors, a physical/chemical analysis is performed to verify the contents of the shipment, with additional testing parameters added if needed. Based on the results of the analysis, the shipment is either rejected or accepted. If accepted, the waste will be stored on-site in designated hazardous waste storage areas until it can be used in one of the processes, lab packed and/or transferred off-site. The waste is not recharacterized every year, but is prequalified whenever the generator indicates the process generating the waste has changed or if Clean Harbors suspects the waste received is not the waste prequalified.

C. WASTE MANAGEMENT OPERATIONS

Clean Harbors specializes in the treating of solid and liquid inorganic hazardous waste into a non-hazardous sludge. (The complete list of wastes received by Clean Harbors is provided in Table 2). The wastes received are hazardous due to corrosivity and EP toxicity for metals.

Other types of waste received at the site are either stored until the waste is transferred off-site or the waste is lab packed until shipped off-site. (The types of waste received for storage only are listed in Table 2). These wastes are then stored in a drum storage area depending on the type of waste (acid, alkaline or organic waste).

TABLE 3

PREQUALIFICATION TESTING PARAMETERS

Physical Description	Oil on Acidification
pH Screen	Neutralization Equivalent
Water Mix Characteristics	Chemical Oxygen Demand
Ignitable Screen	Solids Content
Reactive Cyanides Screen	Metal Content
Reactive Sulfides Screen	Organic Components
Settleable Solids	Compatibility
Floating Solids or Oil	Sample Treatability

SUPPLEMENTAL TESTING PARAMETERS

Percent Acidity	Percent Alkalinity
Absorbent Reactivity	pH Spectrum
GC/MS Scan	Specific Gravity
Heat Phase Separation	Gas Chromatography Scan
Cyanides-Peroxide Amenable	Soluble Sulfides
Cyanides-Chlorination Amenable	Sulfate Screen
Cyanides-Conversion Amenable	Paint Filter Test
Liquid Waste Compatibility	Distillation
Sulfide-Peroxide Amenable	Active test
Water Acceptance	Toxicity Characteristic
Hexavalent Chromium	Sulfates
Phosphates	Chlorides
Nitrates	Free Cyanides
Total Cyanides	Total Sulfides
Oil and Grease	Phenols
Total Residue	Heavy Metals (As, Ba, Cd,
Miscellaneous Metals (Cu,	Cr, Pb, Hg, Se, Ag)
Fe, Ca, Mg, Mn, Ni, Zn)	

Three types of hazardous waste and two types of non-hazardous waste are generated on-site from treatment operations and/or operations associated with the treatment of waste. The three hazardous waste generated on-site include waste flammable liquid, waste petroleum naptha and 1,1,1-trichloroethane. The waste flammable liquid is generated from the carbon absorption unit (SWMU #10) at a rate of 600 gallons per year. The waste is stored in drums (see SWMU #36), inside the carbon absorption unit building. The waste is transported to Clean Harbors, Braintree, Massachusetts facility for reclamation. The waste petroleum naptha is generated from the Safety-Kleen parts cleaner unit (SWMU #5) at a rate of 300 gallons per year. The waste is hauled off-site by Safety-Kleen personnel to their Portage, Indiana facility for recycling. The 1,1,1-trichloroethane is generated from the bulking operations, with the rate of generation variable. The waste is transported to Systech in Greencastle, Indiana for incineration.

The two types of non-hazardous waste, wastewater treatment sludge and waste oil, are generated from on-site treatment operations. The wastewater treatment sludge is generated from the sludge dewatering system (SWMU #33) at a rate of 8,000 cubic yards per year. The waste is transported daily in 35 cubic yard trailers to the Winthrop Harbor landfill. The waste oil is generated from the oil/water separator (SWMU #13) at a rate of 120,000 gallons per year. The waste oil is transported to Systech in Greencastle, Indiana for recycling.

D. REGULATORY HISTORY

On November 17, 1980, Chem-Clear submitted their RCRA Part A permit application to the U.S. Environmental Protection Agency. The Part B permit application was received by the Illinois Environmental Protection Agency on February 25, 1983, with the revised Part B submitted on September 28, 1990 and February 20, 1991. The Part B permit application identifies the following Hazardous Waste Management Units (HWMU): acid drum storage area (SWMU No. 1), alkaline drum storage area (SWMU No. 2), organic drum storage area (SWMU No. 3), drum staging area (SWMU No. 4), carbon absorption unit (SWMU No. 10), oil/water separator (SWMU No. 13), pretreatment system (SWMU No. 22), chemical treatment unit (SWMU No. 25) and four waste storage tanks (SWMU Nos. 27 thru 30).

The facility applied for a permit from the Illinois Environmental Protection Agency Division of Land Pollution Control, on May 14, 1980, including additional plans dated August 13 and October 14, 1980, to develop a waste management facility. The developmental permit (1980-36-DE) was granted on October 27, 1980, with the operating permit (1980-36-OP) granted to the facility on October 22, 1981. The original

operating permit includes the following revisions: Log Numbers 1990-532 (1990-478, 1990-476, 1990-277, 1990-250, 1990-156, 1990-155, 1990-007, 1989-237, 1984-759, 1985-219, 1986-083, 1986-101, 1986-145, 1987-022, 1988-294, 1989-007, 1989-173). Besides these permits issued to the facility by the Division of Land Pollution Control, the facility has permits from the IEPA Division of Water Pollution Control (DWPC) and the Division of Air Pollution Control (DAPC). The permit from the DWPC (1990-EN-1301) is for their process sewer system, with the effluent discharged to the Metropolitan Water Reclamation District of Greater Chicago. The permit from the DAPC (031600BTE) is for the following four emission sources:

Carbon Absorption System	84210029
Filter Press Building	85120021
Packed Countercurrent Scrubber	87080055
Wastewater Treatment Facility	83120017.

E. COMPLIANCE HISTORY

Clean Harbors of Chicago, Inc., according to Illinois EPA Land Division Files, has resolved all previous violations. These past violations include: manifest violation 855.104, closure/post closure violation 725.212, financial violations 725.243, 725.242(b) and 724.251 and other violations 725.116(b), 725.115(b), 725.116, 725.137 and 725.115(d).

Clean Harbors has been in violation of discharge standards set by the Metropolitan Water Reclamation District of Greater Chicago. The violations from 1984 to 1990 include the following parameters: mercury, pH, total cyanide, readily releaseable cyanide, polychlorinated biphenyls, sulfur bearing wastewater, copper, fats, oils and greases, lead, nickel, iron, zinc, total chromium and discharging an effluent with noxious gases (hydrogen sulfide). These violations have been resolved, with no current violations against the facility.

F. VISUAL SITE INSPECTION

A visual site inspection (VSI) was conducted at the Clean Harbors facility in Chicago, Illinois on December 19, 1990. Bob Casper, Judy Triller and Greg Dunn of the Illinois EPA arrived on-site at 9:35 a.m. Clean Harbors of Chicago representative, Mr. James Laubsted, was present during the VSI.

Clean Harbor and IEPA representatives met in Mr. Laubsted's office to discuss the objectives of the VSI. The site history and site processes were explained by Mr. Laubsted and IEPA personnel submitted a list of solid and hazardous waste

management units to be inspected. An aerial photograph from the mid 1970's was shown to Mr. Laubsted. The aerial photograph showed the past pickle liquor lagoons and the stormwater retention basin. A photocopy of the map was provided to Mr. Laubsted. The meeting lasted from 9:35 a.m. to 11:30 a.m.

At 11:40 a.m. the facility tour began with the inspection of the outside drum storage area 1 (SWMU #7), on the north side of process building #1. This area was used to store drums, but currently contains two mobile trailers. West of the drum storage area 1 is the four hazardous and solid waste storage tanks (SWMU #27-30). The tanks are surrounded by a concrete and/or a gravel berm, both with a pvc liner. No leaks were observed on the ground or in the area of the overhead pipes.

The south side of process building #1, beginning with the inspection of the mobile filter press (SWMU #35), was the next area visited. The filter press is located partly on the truck unloading pad (SWMU #32) and partly on the gravel parking lot. The filter press was in good condition, with no observed spills in the area of the trailer or conveyor belt. The outside drum storage area 2 (SWMU #9) located just north of the mobile filter press was observed next. No drums were observed on the concrete pad because the pad has not been used since early 1990. The concrete was in good condition, with a sump, associated with the concrete receiving tanks, nearby to collect any previous spills. During the inspection of the drum storage pad, three 35 cubic yard trailers (SWMU #24) were observed on the south side of the property. The trailers contained oil contaminated soil and associated clean-up equipment. The trailers were placed on a gravel lot, with no observed leaks or spills in this area.

The four concrete receiving tanks (SWMU #31) were observed next. The tanks appeared to be in good condition, but the sump surrounding the tanks was full of material or debris in a couple of areas. Directly south of the concrete receiving tanks is the truck unloading pad (SWMU #32). The unloading pad is constructed of concrete, with no curbing around the edges to deter material from flowing into the gravel. A sump around the concrete receiving tanks is used to collect any spills from trucks unloading material into the receiving tanks. A few cracks were observed in the concrete pad.

The next area visited was the east side of the facility where the former pickle liquor, oil and lime basins (SWMU #17-21) were located in the 1970's. This area is now covered by grass and/or portions of the gravel parking lot. No observations could be made on these units. The IEPA personnel left the site at 12:30 p.m. for lunch.

Arriving on-site at 1:30 p.m. after lunch, the first area observed was the area on the west side of the pier. In this

area, the landfill (SWMU #16) and the auxiliary basin #3 (SWMU #15) were located in the 1970's. This area is now overgrown with brushy material and weeds. A few trees were observed growing on this part of the site.

Following the areas west of the facility, the visual inspection began on the inside parts of the process buildings. The first areas observed inside were the organic (SWMU #12) and inorganic (SWMU #11) laboratories. The labs are located inside process building #1, and are used to screen waste material coming into the facility. The waste material after analysis is placed into one of the four receiving tanks. Floor drains and sink drains in the inorganic lab, discharge into the concrete sludge tank (SWMU #26). The organic lab drains flow into a five gallon container that is emptied into one of the receiving tanks.

Inside the main part of process building #1, the chemical treatment unit (SWMU #25) was observed. All the tanks are located on a concrete floor, with the floor sloping toward the concrete sludge tank (for spill collection). Southwest of the chemical treatment area was the process sewer system (SWMU #6). This area contained a Metropolitan Water Reclamation District of Greater Chicago sampling station. Before leaving the south end of process building #1, the 13,000 gallon in-ground concrete sludge tank (SWMU #26) was observed. The tank had a metal grate over the top of the tank, with no other visual observations of the tank possible.

The carbon absorption unit (SWMU #10) and the inside drum storage area (SWMU #36) were the next areas observed. These units are located inside a concrete block building, just west of process building #1. Three drums of waste, all in good condition, from the carbon system were observed against the west wall. No cracks were observed in the concrete floor or walls of the building. A floor sump on the southeast side of the building collects any spills or leaks from the carbon system or drums. The sump was not observed during the VSI.

Proceeding to process building #2, the inside drum storage areas for acid, alkaline and organic wastes and the drum staging area were observed (SWMU #1-4, respectively). The drums are all located on a concrete floor that slopes toward a floor trench used to collect spills and leaks. The types of waste stored (acid, alkaline or organic) are segregated by concrete curbs and metal railings. The concrete in this area was in good condition, with no spills or leaks observed.

The sludge dewatering system (SWMU #33) was observed next in process building #2. The system has a 120 cubic foot recessed chamber pressure filter that solidifies the sludge. The sludge drops into a 35 cubic yard trailer that is underneath the filter. Three tanks associated with the system were also in this area and all appeared to be in good

condition. A floor sump near the tank area collects any spills, with the material pumped back into the sludge tank (SWMU #26). The concrete in this area was in good condition and no spills were observed during the VSI.

The last area observed during the VSI was the north end of process building #1. This area contained the oil/water separator system (SWMU #13), chemical reduction/oxidation pretreatment system (SWMU #22), special waste storage tank (SWMU #23) and the safety-kleen unit (SWMU #5). The oil/water separator system consists of four tanks contained within a concrete containment system. A sump within this system pumps any collected material back into one of the two reactor tanks. The tanks and concrete were in good condition, no cracks were observed in the curbing or concrete floor. Some small spill areas were noticed inside the containment system.

The chemical reduction/oxidation pretreatment system is located on a concrete floor, with the floor sloping toward the in-ground sludge tank (SWMU #26). The tank is used to collect any spills from this unit. The concrete was in good condition and no spills or stains were observed in this area.

The safety-kleen unit is in the same area as the pretreatment system and is also located on the concrete floor. A nearby sump collects any spills from this unit, with any collected material pumped into the sludge tank (SWMU #26). The area around the safety-kleen unit was clean, with no cracks or stains observed in the concrete. (See Table 6 for a summary of all on-site tanks).

After the visual site inspection, the IEPA personnel and Mr. Laubsted returned to the office trailer to clarify some of the units observed during the VSI. IEPA personnel left the Clean Harbors facility at 4:30 p.m. Photographs of the Visual Site Inspection are provided in Attachment C.

G. ENVIRONMENTAL SETTING

The climate of the Chicago area is characterized by cold winters and warm summers, but areas near Lake Michigan are cooler in the summer. In winter the average temperature is 25 degrees Fahrenheit and in the summer the average temperature is 71 degrees Fahrenheit.

The annual precipitation (rainfall and melted snowfall) in the Chicago region is 33.4 inches. The wettest months are June, July and September, with December, January and February the driest months. The heaviest one day rainfall in Chicago was 4.25 inches. The wind patterns (wind is primarily out of the south and southwest) from the Gulf of Mexico supply a majority of the moisture for this region during the summer

months.

The soils at the Clean Harbors facility consist primarily fill material to an unknown depth. (This material was used to build the current pier area). Underlying the fill is approximately 10 feet of silts, clays and sands of the Equality Formation. The Wadsworth Till Member (about 30 feet thick) underlies the Equality Formation and consists of clayey gray tills. Below the Wadsworth Till Member is the Lemont Drift, which consists of yellow-gray silty till and sand and gravel (approximately 45 feet thick). Underlying the Lemont Drift is the Silurian dolomite of the Niagaran and Alexandrian Series. The Silurian dolomite is encountered approximately 90 feet below the surface (see Figure 3).

Approximately eight boreholes have been drilled at the Clean Harbors facility (see Figure 4 for the locations). The results indicate the presence of volatiles, semi-volatiles and heavy metals, with some elevated concentrations (see Table 4 for a summary). One other area exists on-site allegedly containing significant levels of hexachlorobenzene. (Attachment D contains the analytical data for all on-site samples).

Four aquifers systems exist in the Lake Calumet area and are designated as: 1) sand and gravel deposits of the glacial drift; 2) shallow Silurian dolomite; 3) Cambrian-Ordovician aquifer ; and 4) Mt. Simon sandstone (IEPA, 1986). The majority of private wells for homes and light industry use the shallow dolomite aquifer. The Maquoketa shale, a confining layer, separates the shallow dolomite aquifer from the Cambrian-Ordovician aquifer. The larger industries will obtain water from the Cambrian-Ordovician aquifer, which is a combination of six different units (ISWS and ISGS, 1959). The Eau Claire Formation (primarily shales) separates the Cambrian-Ordovician aquifer from the Mt. Simon sandstone aquifer. The Mt. Simon sandstone is also used by large industrial users due to the depth needed to penetrate the formation. A four mile radius map for the Clean Harbors facility is provided in Attachment E.

The major source of water for residents and industry in the Lake Calumet area is supplied by the City of Chicago from Lake Michigan. However, some private wells exist in this area, but most private wells are used for watering lawns only. There are 6 private wells within four miles of this site, serving approximately 17 people, that use groundwater for drinking (ISWS well logs). The closest well used for drinking is 1.95 miles south southeast of the site. Area well logs are provided in Attachment F.

As many as five monitor wells exist on-site, with one monitor well drilled by Clean Harbors and the other four wells drilled by Hyon Waste Management. The well drilled by Clean

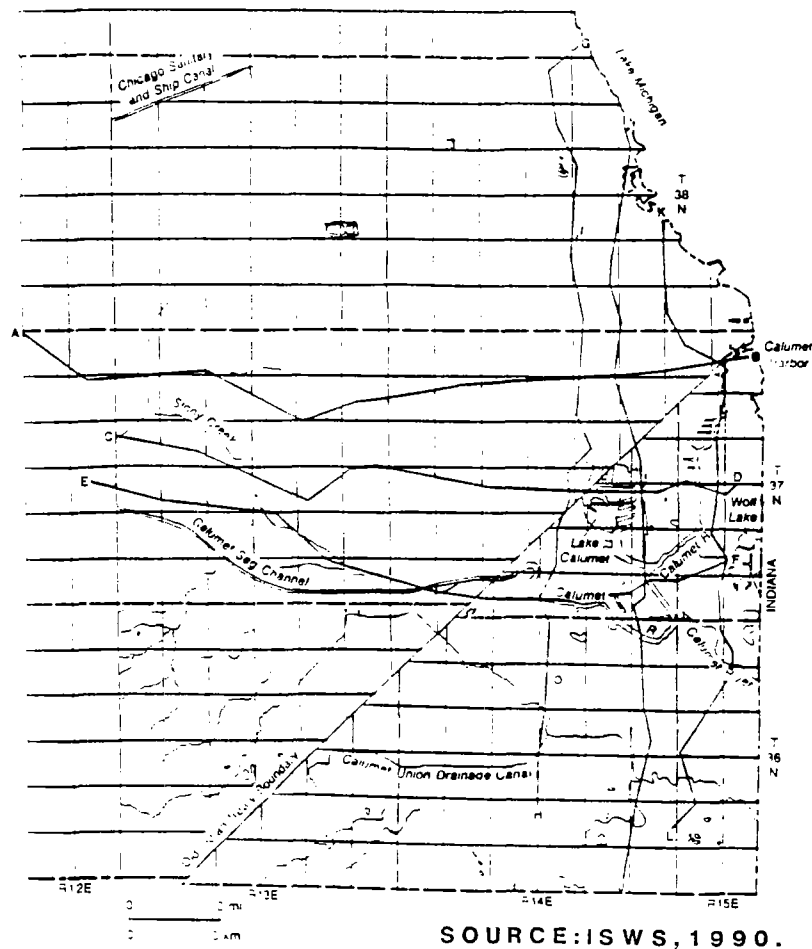
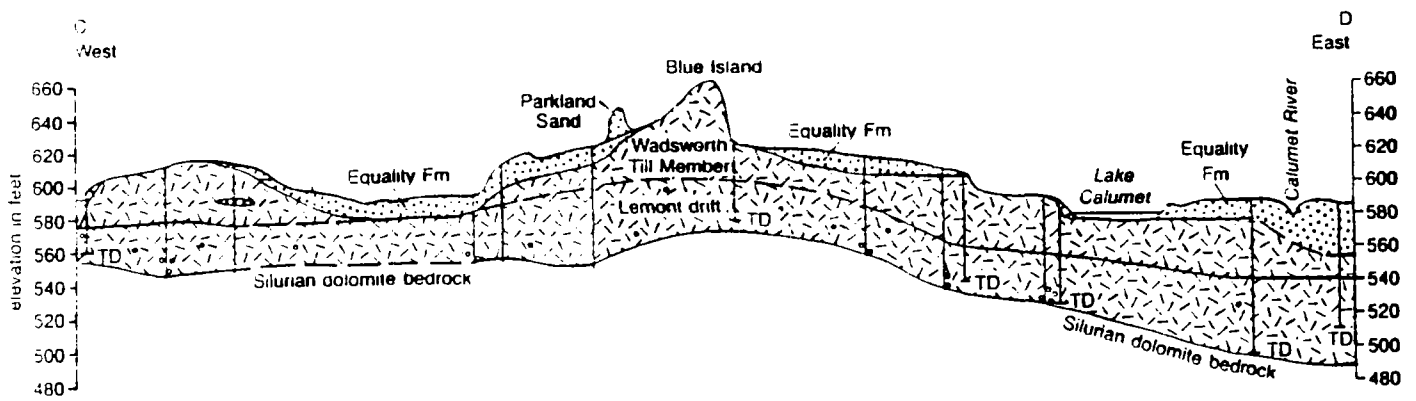


FIGURE 3 LAKE CALUMET CROSS-SECTION

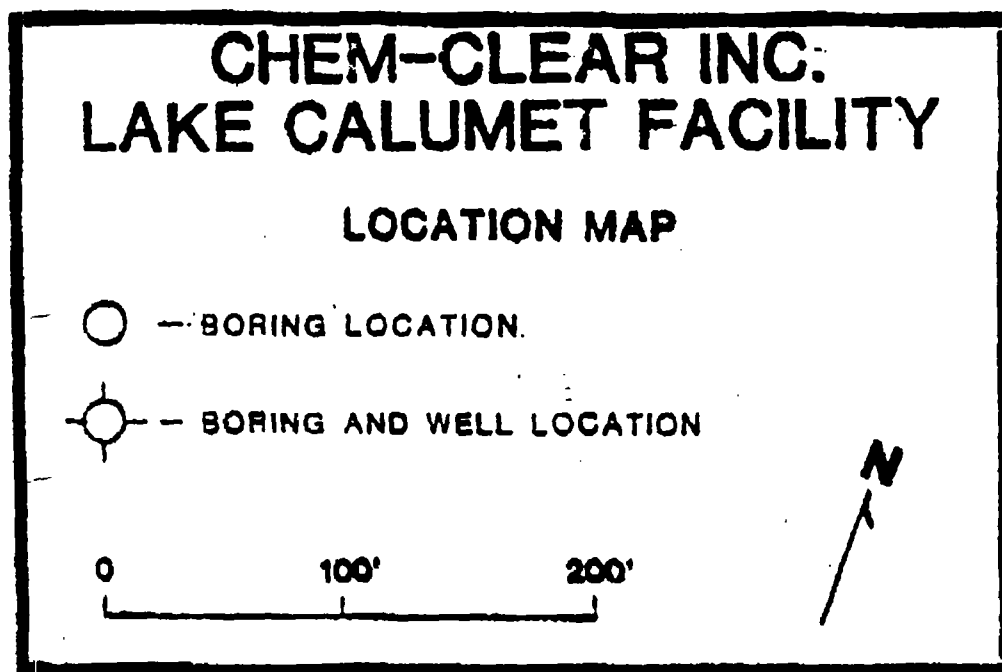
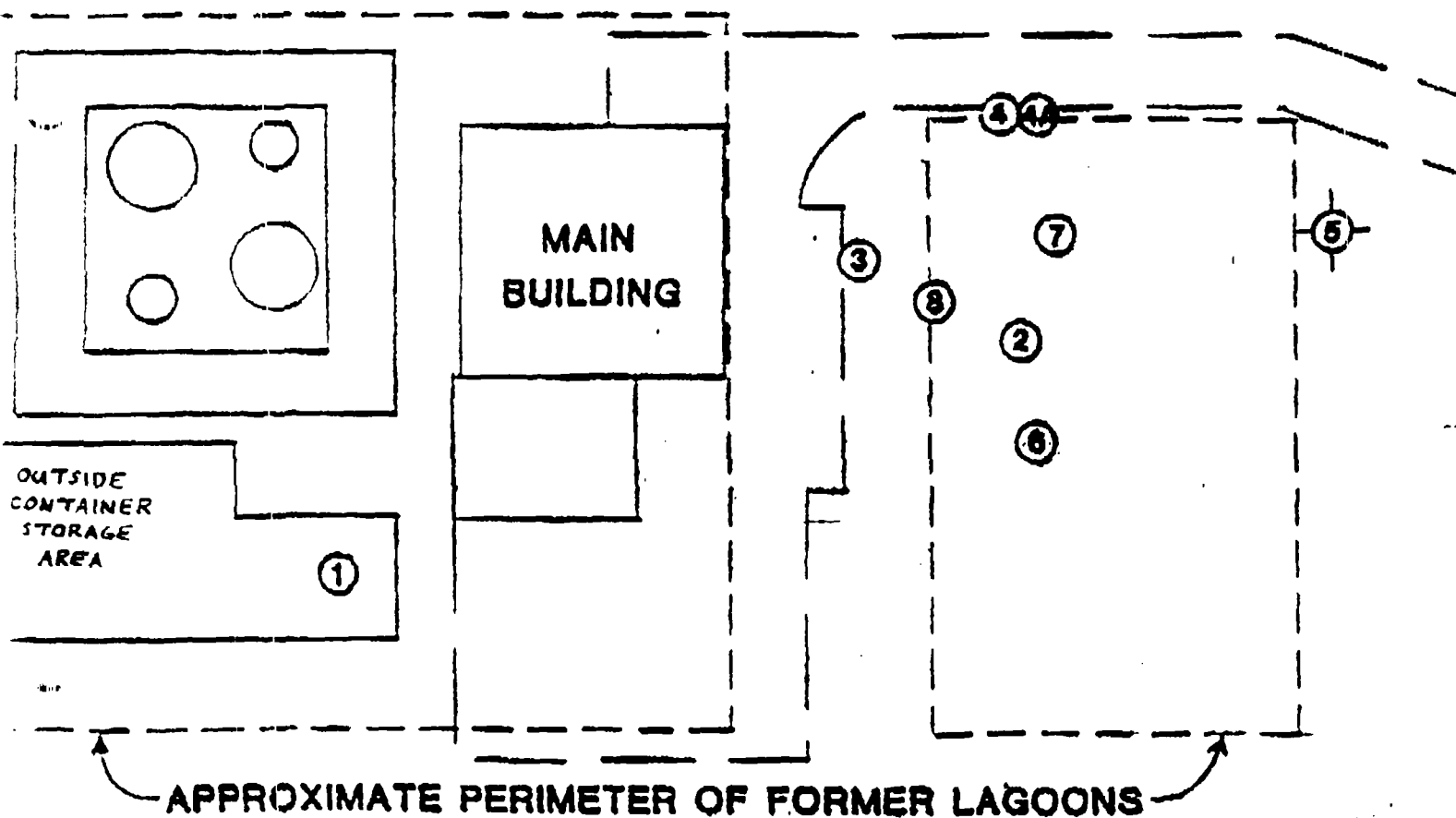


FIGURE 4 BOREHOLE LOCATIONS

TABLE 4

SUMMARY OF ON-SITE SOIL SAMPLES AUGUST 1990

(concentrations in ppm)

	<u>B1,S1</u>	<u>B1,S2</u>	<u>B1,S3</u>	<u>B1,S4</u>	<u>B2,S1</u>	<u>B2,S2</u>
methylene chloride	--	--	--	--	--	--
acetone	--	--	0.96	1.0	0.21	0.87
1,1-dichloroethane	--	--	--	--	--	--
chloroform	--	--	--	--	--	--
1,2-dichloroethane	--	--	--	--	--	--
2-butanone	--	--	--	--	--	--
1,1,1-trichloroethane	--	--	--	--	--	--
trichloroethene	--	--	--	--	--	--
benzene	--	8.0	0.45	0.96	0.006	0.037
4-methyl-2-pentanone	--	--	0.13	0.36	--	--
tetrachloroethene	--	--	--	--	--	--
toluene	--	0.064	3.5	2.5	0.007	0.038
chlorobenzene	--	--	--	--	--	--
ethylbenzene	--	--	--	0.034	--	0.010
xylenes (total)	--	--	--	0.13	0.11	--
phenol	--	--	12.0	22.0	--	--
2,4-dichlorophenol	--	--	--	--	--	--
2-methylnaphthalene	--	--	--	--	--	--
4-chloroaniline	--	--	--	--	--	--
hexachlorobenzene	--	--	--	--	--	--
phenanthrene	--	--	--	--	--	--
fluoranthene	2.8	--	--	--	--	--
pyrene	2.1	--	--	--	--	--
bis(2-ethylhexyl)phthalate	--	--	--	--	--	--
benzo(k)fluoranthene	--	--	--	--	--	--
1,2-dichlorobenzene	--	--	--	--	--	--
1,4-dichlorobenzene	--	--	--	--	--	--
barium	--	--	--	--	--	--
cadmium	--	--	--	--	--	--
chromium	315.0	156.0	323.0	152.0	152.0	373.0
lead	400.0	330.0	160.0	150.0	260.0	--
mercury	--	--	--	--	--	0.1298
selenium	--	--	--	--	--	--

-- indicates compound not detected

B-indicates boring number

S-indicates sample number

TABLE 4 (cont.)

SUMMARY OF ON-SITE SOIL SAMPLES AUGUST 1990

	<u>B2,S3</u>	<u>B2,S4</u>	<u>B3,S1</u>	<u>B3,S2</u>	<u>B3,S3</u>	<u>B3,S4</u>
methylene chloride	--	--	--	--	--	0.59
acetone	0.82	1.4	--	0.1	0.28	2.7
1,1-dichloroethane	--	--	--	--	--	0.026
chloroform	--	--	--	--	--	0.14
1,2-dichloroethane	--	--	--	--	--	0.35
2-butanone	0.027	--	--	--	--	0.15
1,1,1-trichloroethane	--	--	--	--	--	0.19
trichloroethene	--	--	--	--	--	2.9
benzene	0.32	4.1	--	--	0.062	0.32
4-methyl-2-pentanone	0.074	0.2	--	--	--	--
trachloroethene	--	--	--	--	--	0.37
toluene	0.14	0.7	--	--	--	4.0
chlorobenzene	--	--	--	--	--	--
ethylbenzene	0.019	0.048	--	--	--	0.81
xylene (total)	0.12	0.3	--	--	--	5.0
phenol	11.0	--	--	--	8.7	--
2,4-dichlorophenol	--	--	--	--	--	--
1-methylnaphthalene	2.6	--	--	--	--	--
4-chloroaniline	--	--	9.4	--	--	--
hexachlorobenzene	--	--	23.0	--	8.4	--
phenanthrene	--	--	--	4.2	--	--
fluoranthene	2.8	--	--	--	--	--
pyrene	2.1	--	--	3.3	--	--
bis(2-ethylhexyl)phthalate	--	--	28.0	--	--	--
benzo(k)fluoranthene	--	--	5.6	--	--	--
1,2-dichlorobenzene	--	--	--	13.0	8.0	--
1,4-dichlorobenzene	--	--	--	4.0	--	0.040
mercury	--	--	--	0.390	--	--
cadmium	--	--	5.53	4.46	2.55	6.94
chromium	286.0	964.0	531.0	1320.0	380.0	370.0
lead	250.0	--	400.0	300.0	180.0	1900.0
mercury	0.0947	--	0.1724	0.0883	0.0614	0.4582
selenium	--	--	--	--	--	--

-- indicates compound not detected

B-indicates boring number

S-indicates sample number

TABLE 4 (cont.)

SUMMARY OF ON-SITE SOIL SAMPLES AUGUST 1990

	<u>B4,S1</u>	<u>B4,S2</u>	<u>B4,S3</u>	<u>B4,S4</u>
methylene chloride	--	--	--	--
acetone	0.21	0.094	--	0.066
1,1-dichloroethane	--	--	--	--
chloroform	--	--	--	--
1,2-dichloroethane	--	--	--	0.005
2-butanone	0.040	--	--	--
1,1,1-trichloroethane	--	--	--	--
trichloroethene	0.043	--	--	0.046
benzene	0.011	0.29	--	--
4-methyl-2-pentanone	--	--	--	--
tetrachloroethene	--	--	--	--
toluene	--	--	--	0.009
chlorobenzene	0.054	--	--	--
ethylbenzene	0.094	8.0	--	--
xylenes (total)	0.44	0.042	--	0.032
phenol	--	--	--	--
2,4-dichlorophenol	4.1	--	--	--
2-methylnaphthalene	--	--	--	--
4-chloroaniline	18.0	--	--	11.0
hexachlorobenzene	11.0	--	--	25.0
phenanthrene	--	--	--	--
fluoranthene	--	--	--	--
pyrene	--	--	--	--
bis(2-ethylhexyl)phthalate	6.7	--	--	8.8
benzo(k)fluoranthene	--	--	--	--
1,2-dichlorobenzene	--	--	--	0.039
1,4-dichlorobenzene	--	--	--	--
barium	--	--	--	--
cadmium	2.73	--	--	6.49
chromium	473.0	234.0	306.0	764.0
lead	180.0	260.0	190.0	640.0
mercury	0.0741	--	0.0721	0.2915
selenium	--	53.0	--	--

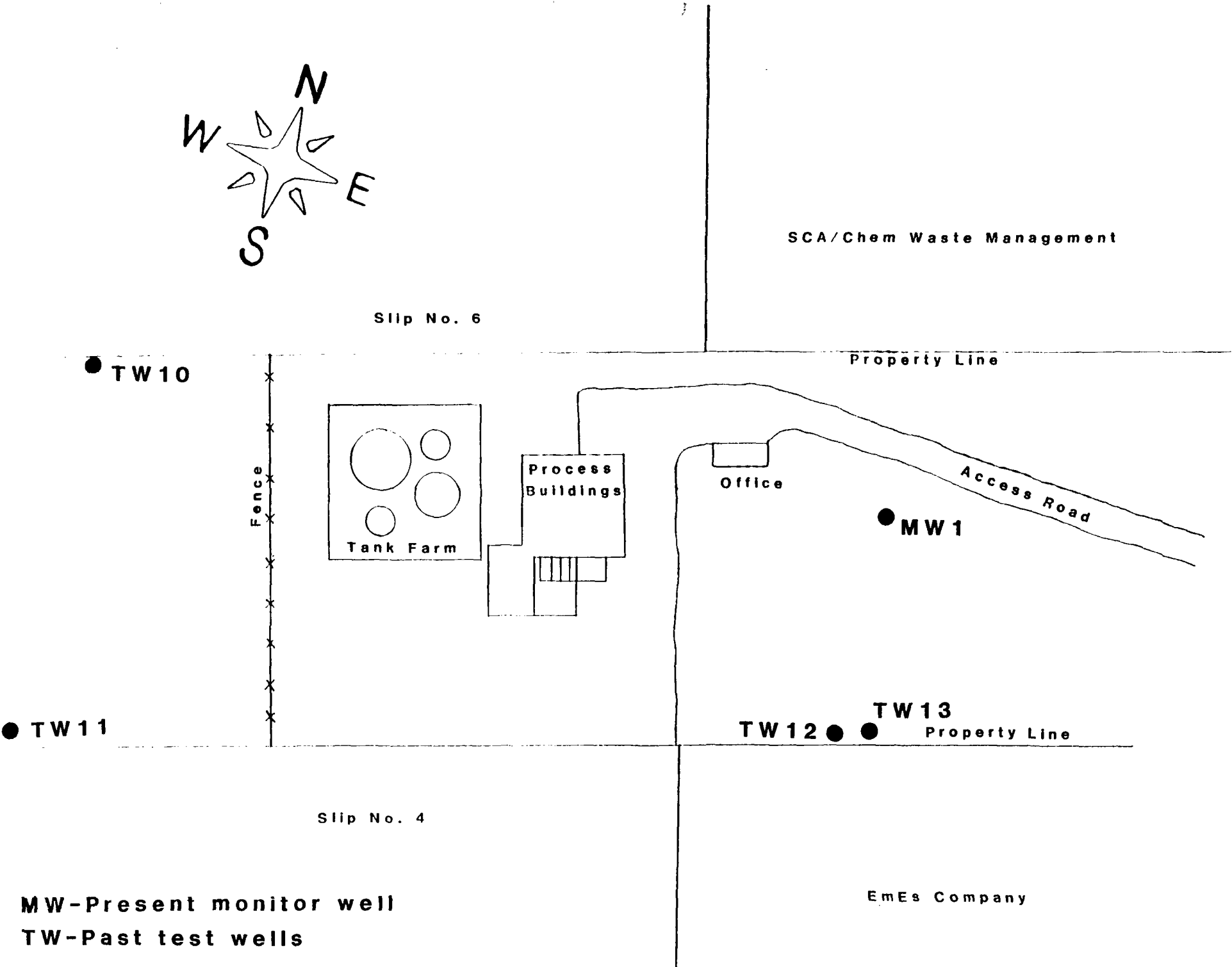
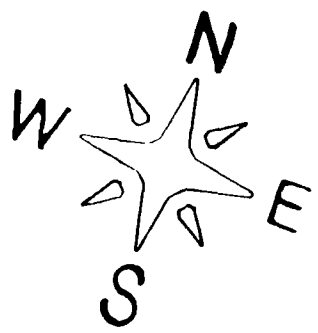
-- indicates compound not detected
 B-indicates boring number
 S-indicates sample number

Clean Harbors is monitored quarterly (see Table 5 for summary), but the other four wells are not sampled by the facility. The last time these wells were sampled (according to IEPA records) was in January of 1974. At least two of the wells still exists on-site, but the other two were not observed. (See Table 5 and Figure 5 for the summary of monitor well samples and the locations of the wells, respectively).

Storm water run-off from areas around the unloading pad and within the tank farm flow into sumps that are pumped back into tanks for treatment. The run-off from the rest of the site will flow into Lake Calumet, which is less than 50 feet from the tank farm and 80 feet from the unloading pad. Lake Calumet flows south toward the Calumet River which is two miles (stream miles) from the site. The water flowing into the Calumet River flows either north toward Lake Michigan or south into the Little Calumet River. The water from the Calumet River is diverted south through the O'Brien Lock and Dam for navigational and discretionary purposes (HWRIC RR-50). The discretionary use applies to water flowing south into the Little Calumet River to dilute the flow (for water quality improvement purposes). The Calumet River is approximately two miles (stream miles) from the site, with Lake Michigan approximately eight stream miles from Clean Harbors. The Little Calumet River is three miles from the site (one mile from Lake Calumet) and the Cal-Sag Channel is 9.5 miles from Clean Harbors. Lake Calumet is not used for recreation (according to Illinois Department of Conservation's Illinois Fishing Guide), but the Little Calumet River and Lake Michigan are used for recreation. A drinking water intake for Chicago is located within fifteen miles of the site. A fifteen mile surface water map is provided in Attachment G.

Air releases have occurred at the facility at least twice in the last ten years. The first incident occurred in September of 1987 when a wastestream accepted at Clean Harbors had a higher sulfur content than originally tested. The result was mercaptan emissions from the plant. The other air release happened in November of 1983 when a load of sulfuric/nitric acid was delivered to the site. When the driver of the truck opened the hatch, a orange color cloud was released from the tanker. The incidents did not cause any injuries or apparent harm to the environment. No complaints of odors from nearby industries have been documented since the 1987 incident. The total population within a four mile radius of the Clean Harbors facility is approximately 295,000 people.

Three other releases verified by Clean Harbors were the result of spills. The first spill occurred on January 6, 1985 when 100,000 gallons of metal hydroxide sludge was spilled from a pipeline rupture. The material was contained within process building #1 and the tank farm. The sludge was removed from these areas and placed in a sound tank. The



MW-Present monitor well
TW-Past test wells

Not to scale.

TABLE 5

SUMMARY OF MONITOR WELL RESULTS
(concentrations in ppm)

	MW1 <u>12-20-90</u>	TW10 <u>01-31-74</u>	TW13 <u>01-31-74</u>	TW14 <u>01-31-74</u>
methylene chloride	1.80	--	--	--
phenol	1.60	0.82	--	--
arsenic	0.05	0.004	0.012	0.425
barium	--	--	--	--
cadmium	--	--	0.40	0.08
copper	--	0.10	300.00	0.13
cyanide	--	6.00	--	--
total chromium	--	0.14	420.00	0.33
total iron	--	0.10	36500.00	550.00
lead	--	0.45	1.50	2.00
manganese	--	0.62	400.00	20.50
mercury	--	0.0003	0.0003	--
nickel	0.12	0.10	45.00	1.00
selenium	--	--	--	--
silver	--	--	0.22	0.05
zinc	0.08	0.80	520.00	15.00

-- indicates compound not detected

TW indicates test wells installed at site in 1973 (not monitored)

MW indicates monitor well currently on-site and monitored

TW14 background well used to compare 1973 results

NOTE: inorganic compounds for MW1 were analyzed for total concentrations

second spill occurred on July 18, 1990 when a drum apparently fell off a truck. Approximately 30 gallons of oil containing 1,1,1-trichloroethane was spilled in a 36 square foot area. Four 55-gallon drums of material were collected from the spilled area. The third incident happened on August 11, 1990 when a truck entering the facility was found to be leaking. The material leaking, sodium hydroxide wastewater, and the contaminated soil (approximately 5 cubic yards total) were removed for treatment.

Due to the low number of resident using groundwater, the lack of surface water use, and the regulated units on-site, a no further action is recommended by the Pre-Remedial Program.

III. DESCRIPTION OF SOLID WASTE MANAGEMENT UNITS

According to the Part B permit application, twelve Hazardous Waste Management Units (HWMUs) have been identified as the following: acid drum storage area, alkaline drum storage area, organic drum storage area, drum staging area, carbon absorption unit, oil/water separator, pretreatment system, chemical treatment unit, and four waste storage tanks. The following Solid Waste Management Units (SWMUs) have been identified from file searches, site representative interviews and the reconnaissance inspection: outside drum storage area 1, former sludge storage pad, outside drum storage area 2, former 10,000 gallon sludge feed tank, special waste storage tank, oil contaminated storage area, 13,000 gallon concrete sludge tank, 7,000 gallon concrete receiving tanks, inside drum storage area, sludge dewatering system, safety-kleen unit, process sewer system, inorganic and organic laboratories, auxiliary basin #3, landfill, former pickle liquor basins, former oil basin, former lime basin, truck unloading pad, former rotary press and mobile filter press (see attachment A and attachment B).

Unit No.: SWMU No. 1

Unit Name: Acid Drum Storage Area
(Photo #34 and #42)

Unit Description: This unit is located inside, on the west end, of process building #2 (see Attachment A). The drum storage area, constructed of concrete, consists of approximately 754 square feet (29 feet by 26 feet) of floor space for a maximum total capacity of 192-55 gallon drums. The waste is stored on wooden pallets in 55-gallon drums, 30-gallon drums, 16-gallon drums and 5-gallon containers, with the pallets stacked two high. The number of drums stored in this area is dependent on the number and frequency of shipments received by the facility. The drums are stored in the area approximately two weeks until they can be disposed, reclaimed or recovered off-site or used in one of the processes. The concrete floor slopes towards a floor trench used to collect any spills or leaks during storage. (The floor trench does not empty into any sumps or pipes, but is used solely for the collection of spills). No cracks were visible in the concrete floor or in the trench and no material was observed in the trench. Approximately 85-55 gallon drums, 1-16 gallon drum and 8-5 gallon drums were on-site at the time of the VSI.

Date of Start-up: 1990.

Date of Closure: This unit is presently active with no anticipated date of closure.

Waste Managed: Acid wastes which include: Non-hazardous lab packs, hazardous lab packs, aluminum surface coating and etching wastes, inorganic pigment wastes, electroplating wastes, iron and steel industry wastes, spent solvents listed in F001 through F005, pharmaceutical manufacturing wastes, ink formulation wastes, coking wastes, tannery industry wastes, photo-processing industry wastes, graphic arts industry wastes, battery industry wastes, hazardous used oils,

hazardous hospital wastes and non-hazardous used, off specification or surplus oils.

Release Controls: The containers are stored on a concrete floor with a lateral floor trench used to collect any spills. Spills collected in the floor trench will be pumped back into the drums. Containment capacity for the acid drum storage area and the floor trench combined totals 1,675 gallons.

History of Releases: There have been no documented releases reported nor have any been observed from this unit.

Conclusions: Soil/Groundwater: The release potential to the soil/groundwater is low due to unit design.

Surface Water: The release potential to surface water is low due to unit design.

Air: The release potential to air is low due to unit design.

Subsurface Gas: The potential for the generation of subsurface gas is low due to unit design.

Unit No.: SWMU No. 2

Unit Name: Alkaline Drum Storage Area
(Photo #35 and #42)

Unit Description: This unit is located inside, on the west end of process building #2 (see Attachment A). The drum storage area, constructed of concrete, consists of 312 square feet of floor space (12 feet by 26 feet) for a maximum total capacity of 96-55 gallon drums. The waste is stored on wooden pallets in 55-gallon drums, 30-gallon drums, 16-gallon drums and 5-gallon containers, with the pallets stacked two high. The number of drums stored in this area is dependent on the frequency of shipments received by the facility. The drums are stored in the area approximately two weeks until the waste can be reclaimed, recovered or disposed off-site or used in one of the processes on-site. The concrete floor slopes toward a floor trench used to collect any spills or leaks during storage. (The floor trench does not empty into any sumps or pipes, but is used solely for the collection of spills). Any material collected in the trench is pumped back into the drums. No cracks were observed in the concrete floor and no cracks or material were observed in the trench. Approximately 74-55 gallon drums, 3-30 gallon drums and 1-5 gallon container were on-site at the time of the VSI.

Date of Start-up: 1990.

Date of Closure: This unit is presently active with no anticipated date of closure.

Waste Managed: Reactive wastes which include: Non-hazardous lab packs, hazardous lab packs, aluminum surface coating and etching wastes, inorganic pigment wastes, electroplating wastes, iron and steel industry wastes, spent solvents listed in F001 through F005, pharmaceutical manufacturing wastes, ink formulation wastes, coking wastes, tannery industry wastes, photo-processing industry wastes,

graphic arts industry wastes, battery industry wastes, hazardous used oils, hazardous hospital wastes and non-hazardous used, off specification or surplus oils.

Release Controls: The containers are stored on a concrete floor with a lateral floor trench used to collect any spills. Spills collected in the floor trench will be pumped back into the drums. Containment capacity for the alkaline drum storage area and the floor trench combined totals 675 gallons.

History of Releases: There have been no documented releases reported nor have any been observed from this unit.

Conclusions: Soil/Groundwater: The release potential to the soil/groundwater is low due to unit design.

Surface Water: The release potential to surface water is low due to unit design.

Air: The release potential to air is low due to unit design.

Subsurface Gas: The potential for the generation of subsurface gas is low due to unit design.

Unit No.: SWMU No. 3

Unit Name: Organic Drum Storage Area
(Photo #36 and #42)

Unit Description: This unit is located inside, on the west end of process building #2 (see Attachment A). The drum storage area, constructed of concrete, consists of 624 square feet of floor space (24 feet by 26 feet) for a maximum total capacity of 192-55 gallon drums. The waste is stored on wooden pallets in 55-gallon drums, 30-gallon drums, 16-gallon drums and 5-gallon containers, with the pallets stacked two high. The number of drums stored in this area is dependent on the frequency of shipments received by the facility. The drums are stored in the area approximately two weeks until the waste can be reclaimed, recovered or disposed off-site or used in one of the processes on-site. The concrete floor slopes toward a floor trench used to collect any spills or leaks during storage. (The floor trench does not empty into any sumps or pipes, but is used solely for the collection of spills). Any material collected in the trench is pumped back into the drums. No cracks were observed in the concrete floor and no cracks or material were observed in the trench. Approximately 166-55 gallon drums, 3-16 gallon drums and 1-5 gallon container were on-site at the time of the VSI.

Date of Start-up: 1990.

Date of Closure: This unit is presently active with no anticipated date of closure.

Waste Managed: Organic wastes which include: Non-hazardous lab packs, hazardous lab packs, aluminum surface coating and etching wastes, inorganic pigment wastes, electroplating wastes, iron and steel industry wastes, spent solvents listed in F001 through F005, pharmaceutical manufacturing wastes, ink formulation wastes, coking wastes, tannery industry wastes, photo-processing industry wastes,

graphic arts industry wastes, battery industry wastes, hazardous used oils, hazardous hospital wastes and non-hazardous used, off specification or surplus oils.

Release Controls: The containers are stored on a concrete floor with a lateral floor trench used to collect any spills. Spills collected in the floor trench will be pumped back into the drums. Containment capacity for the organic drum storage area and the floor trench combined totals 1,350 gallons.

History of Releases: There have been no documented releases reported nor have any been observed from this unit.

Conclusions: Soil/Groundwater: The release potential to the soil/groundwater is low due to unit design.

Surface Water: The release potential to surface water is low due to unit design.

Air: The release potential to air is low due to unit design.

Subsurface Gas: The potential for the generation of subsurface gas is low due to unit design.

Unit No.: SWMU No. 4

Unit Name: Drum Staging Area
(Photo #36)

Unit Description: This unit is located inside, on the west end of process building #2 (see Attachment A). The drum staging area, constructed of concrete, consists of 520 square feet of floor space (20 feet by 26 feet) for a maximum total capacity of 72-55 gallon drums. The waste is stored on wooden pallets in 55-gallon drums, 30-gallon drums, 16-gallon drums and 5-gallon containers, with the pallets stacked one high. The number of drums stored in this area is dependent on the frequency of shipments received by the facility. The drums are stored in the area until they can be moved to the proper drum storage area (either alkaline, acid or organic drum storage area). The concrete floor slopes toward a floor trench used to collect any spills or leaks during storage. (The floor trench does not empty into any sumps or pipes, but is used solely for the collection of spills). Any material collected in the trench is pumped back into the drums. No cracks were observed in the concrete floor and no cracks or material were observed in the trench. No drums were observed in this area during the VSI.

Date of Start-up: 1990.

Date of Closure: This unit is presently active with no anticipated date of closure.

Waste Managed: All wastes (acid, reactive or organic) which include: Non-hazardous lab packs, hazardous lab packs, aluminum surface coating and etching wastes, inorganic pigment wastes, electroplating wastes, iron and steel industry wastes, spent solvents listed in F001 through F005, pharmaceutical manufacturing wastes, ink formulation wastes, coking wastes, tannery industry wastes, photo-processing industry wastes, graphic arts industry wastes, battery industry wastes, hazardous used oils, hazardous hospital wastes and non-hazardous used,

off specification or surplus oils.

Release Controls: The containers are stored on a concrete floor with a lateral floor trench used to collect any spills. Spills collected in the floor trench will be pumped back into the drums. Containment capacity for the drum staging area and the floor trench combined totals 1,142 gallons.

History of Releases: There have been no documented releases reported nor have any been observed from this unit.

Conclusions: Soil/Groundwater: The release potential to the soil/groundwater is low due to unit design.

Surface Water: The release potential to surface water is low due to unit design.

Air: The release potential to air is low due to unit design.

Subsurface Gas: The potential for the generation of subsurface gas is low due to unit design.

Unit No.: SWMU No. 5

Unit Name: Safety-Kleen Unit
(Photo #50)

Unit Description: This unit is located inside, on the west end, of process building #1 (see Attachment A). The Safety-Kleen unit is typical of most of the degreasing units, with this unit fixed to a 10-gallon drum which contains the solvent. The washing basin is approximately two feet long, one foot wide and approximately one foot deep. Once the solvent is used, Safety-Kleen is notified and the drum containing the used solvent is replaced with one containing clean solvent. These drums are replaced approximately every six weeks. The unit was in good condition during the VSI, with no leaks or spills observed on the concrete in this area.

Date of Start-up: 1986.

Date of Closure: This unit is presently active with no anticipated date of closure.

Waste Managed: Waste petroleum naptha.

Release Controls: Any spills from this unit will be collected in a sump that is pumped into the 13,000 gallon concrete sludge tank (SWMU #26).

History of Releases: There are no documented releases reported or observed from this unit.

Conclusions: Soil/Groundwater: The release potential to the soil/groundwater is low due to unit design.

Surface Water: The release potential to surface water is low due to unit design.

Air: The release potential to air is low due to unit design.

Subsurface Gas: The potential for the generation of subsurface gas is low due to unit design.

Unit No.: SWMU No. 6

Unit Name: Process Sewer System
(Photo #27 and #28)

Unit Description: The discharge pipe from Clean Harbors of Chicago is located in the southwest corner of process building #1 (see Attachment A). The effluent from the facility is monitored by the Metropolitan Water Reclamation District of Greater Chicago and by Clean Harbors for a certain set of parameters. No odors were detected from this area during the VSI.

Date of Start-up: 1982.

Date of Closure: This process sewer system is presently used by the facility to discharge wastewater.

Waste Managed: Treated wastewater.

Release Controls: No release controls exist except for the monitoring of the effluent by the facility and the Metropolitan Water Reclamation District of Greater Chicago (MWRDGC).

History of Releases: A number of violations have been documented by the MWRDGC at the point of discharge from the Clean Harbors facility.

Conclusions: Soil/Groundwater: The release potential to the soil/groundwater is moderate because the integrity of the sewer is unknown.

Surface Water: The release potential to surface water is low due to unit design.

Air: The release potential to air is low due to unit design.

Subsurface Gas: The potential for the generation of subsurface gas is low due to unit design.

Unit No.: SWMU No. 7

Unit Name: Outside Drum Storage Area 1
(Photo #1)

Unit Description: This unit was located on the north side of processing building #1 (see Attachment A). The size of the drum storage area is unknown, but approximate measurements during the VSI indicate an area 30 feet by 45 feet. A photograph from 1982 indicates approximately 42 drums in this area. The unit apparently stored any type of waste that could be accepted for treatment between 1981 and 1984. The contents of the drums were used in one of the facility's processes. The storage area consisted of a gravel lot with no known secondary containment. No drums were observed in this area during the VSI since this area now contains two mobile trailers and two semi rigs.

Date of Start-up: 1981.

Date of Closure: This area has not been used since 1984 and has not been through closure.

Waste Managed: Wastes permitted for acceptance between 1981 and 1984 include: dusts and sludges from the iron and steel industry, spent pickle liquor, electroplating wastes, wastewater treatment sludges from the chemical conversion coating of aluminum, inorganic pigment wastes, metal heat treating wastes, corrosive metal cleaning washes and stripping baths, ink formulation wastes, coking operations wastes, waste from the cleaning and washing of tanks, and non-hazardous wastes from the flushing of coolant systems and related equipment.

Release Controls: There were no known containment measures implemented at the time of operation.

History of Releases: A photograph from 1982 indicates some discolored areas around the drums. No other releases are known.

Conclusions: Soil/Groundwater: The past release potential to the soil/groundwater was high because there was no pad underneath the drums. The present release potential is low since the drums have been removed.

Surface Water: The past release potential to surface water was high because drummed material had the potential of flowing off-site into Lake Calumet. The present potential is low since drummed material has been removed.

Air: The past release potential to air is moderate due to the waste stored in this area. The present release potential is low since waste material has been removed.

Subsurface Gas: The past potential for the generation of subsurface gas is high due to the material stored in this area. The present release potential is low since drummed material has been removed.

Unit No.: SWMU No. 8

Unit Name: Former Sludge Storage Pad
(Photo #11 and #40)

Unit Description: This unit was located outside, just west of receiving tank #1 (SWMU #31) (see Attachment A). The sludge from the sludge dewatering system was stored in one of two 35 cubic yard trailers that were parked in this area. A pipe from the former rotary filter press (SWMU #34) inside was used to transport the sludge into the trailers. The sludge was then hauled off to one of the landfills permitted to accept the waste. The trailers were placed on a concrete pad that was capable of holding two trailers at a time. The amount of waste kept in this area depended on the amount of waste received by the facility. This area is currently used by the sludge dewatering system (SWMU #33). No cracks were observed in the concrete floor.

Date of Start-up: 1981.

Date of Closure: This area has not been used since 1986 when the current sludge dewatering (SWMU #33) system began operations.

Waste Managed: Concentrated metal hydroxide sludge and non-hazardous wastewater treatment sludge.

Release Controls: The trailers were located on a concrete pad with no other containment measures.

History of Releases: There are no documented releases reported or observed from this unit.

Conclusions: Soil/Groundwater: The past release potential to the soil/groundwater was low due to the type of waste managed. The present release potential is low since the pad is no longer in use and the trailers have been removed.

Surface Water: The past release potential to surface water was low due to unit design. The present potential is low since the pad is no longer in use and the trailers have been removed.

Air: The past and present release potential to air was low due to the type of waste managed.

Subsurface Gas: The past and present potential for the generation of subsurface gas is low due to the type of waste managed.

Unit No.: SWMU No. 9

Unit Name: Outside Drum Storage Area 2
(Photo #9)

Unit Description: This unit was located on the east side of receiving pit #4 (SWMU #31), on the south side of process building #1 (see Attachment A). The size of the drum storage area is unknown, but approximate measurements indicate the area to be 16 feet by 28 feet. The unit stored any type of waste that could be accepted for treatment, with the contents of the drums used in the facility's processes. The storage area consisted of a concrete pad, with a collection sump located on the west side of the pad. Spills would be collected in the sump then pumped into one of the receiving tanks (SWMU #31). No drums were observed in this area during the VSI. Some cracks were observed in the concrete, but no evidence of spills were found.

Date of Start-up: 1984.

Date of Closure: This unit has not been used since the new storage areas inside process building #2 began operating in 1990.

Waste Managed: Wastes permitted for treatment between 1984 and 1990 include: spent pickle liquor from metal finishing operations, corrosive metal cleaning washes and baths, waste from the washing and cleaning of tanks and equipment, non-hazardous wastes from the flushing of coolant systems and non-hazardous wastewater from cleaning tanks, floors and equipment.

Release Controls: A 225 gallon collection sump was on the west side of the storage pad to collect any spills or leaks. No other containment measures existed.

History of Releases: There have been no documented releases reported nor have any been observed from this unit.

Conclusions: Soil/Groundwater: The past release potential to the soil/groundwater was

moderate due to the cracks in the concrete and the wastes managed. The present release to the soil/groundwater is low since wastes are no longer stored in this area.

Surface Water: The past release potential to surface water was low due to unit design. The present release potential is low since wastes are no longer stored in this area.

Air: The past release potential to air was moderate due to the types of waste stored in this area. The present release potential to air is low since the wastes are no longer stored in this area.

Subsurface Gas: The past potential for the generation of subsurface gas was moderate due to the nature of the waste managed. The present release potential is low since the wastes are no longer stored in this area.

Unit No.: SWMU No. 10

Unit Name: Carbon Absorption Unit
(Photo #32 and #33)

Unit Description: This unit is inside a concrete building, which is located between the tank farm and process building #1, (see Attachment A). This unit includes a two ton activated carbon system, condenser, water separator, preheater, and a 700 cfm blower. Air from receiving tanks 1 (SWMU #27), 2 (SWMU #28), 4 (SWMU #30) and the oil/water separator (SWMU #13) is preheated, with the resulting condensate is pumped to the sludge tank (SWMU #26). The air from the preheater and water from the process water supply are then pumped into the activated carbon system, along with steam from two steam generators. The resulting steam from the activated carbon system flows into the condenser, while air from the carbon system is expelled to the atmosphere (per IEPA Air Pollution permit). Liquid from the condenser then flows into the water separator, while the water from the condenser flows back into the process water supply system. The water separator produces water, which is pumped to the receiving tanks (SWMU #31) and a solvent, which is drummed. The system is located in a brick building that has a floor sump to collect any spills. No cracks were observed in the concrete floor or in the concrete block walls. The floor sump was not observed during the VSI.

Date of Start-up: 1985.

Date of Closure: This unit is presently active with no anticipated date for closure.

Waste Managed: Waste flammable liquid (DOO1).

Release Controls: The carbon absorption unit is inside a concrete building sitting on a concrete floor. The building contains a floor sump that is used to collect any spills. The spills are then pumped into one of the receiving tanks (SWMU

#31). No visible cracks were observed in the concrete floor or walls of the building. The sump was located behind the unit and could not be observed.

History of Releases: There are no documented releases reported or observed from this unit.

Conclusions: Soil/Groundwater: The release potential to the soil/groundwater is moderate since the integrity of the floor sump is unknown.

Surface Water: The release potential to surface water is low due to unit design.

Air: The release potential to air is low due to unit design and is regulated by IEPA's Air Pollution Division.

Subsurface Gas: The release potential for the generation of subsurface gas is low due to unit design.

Unit No.: SWMU Nos. 11 and 12

Unit Name: SWMU #11 - Inorganic Laboratory
SWMU #12 - Organic Laboratory
(Photo #21, #22 and #23)

Unit Description: These units are located inside, on the east end, of process building #1 (see Attachment A). The organic lab is in the northeast part of process building #1, while the inorganic lab is in the southeast portion. The waste is first brought into the inorganic lab for a "finger print" analysis. If organic constituents are suspected, the sample is taken into the organic lab. After analysis, the waste is dumped into one of the receiving tanks (SWMU #31). The labs generate approximately 10 gallons of waste methylene chloride per month, which is drummed and stored in the inside drum storage area (SWMU #36). The inorganic lab generates waste material from the analysis of incoming wastes and is collected in three gallon plastic containers. These containers, when almost full, are emptied into one of the receiving tanks (SWMU #31). The inorganic lab also has a five shelf cabinet that is used to store waste material until an analysis can be completed. During the VSI, all containers on the shelves appeared to be in good condition with no apparent leaks. The floors in the labs are tiled with some spillage observed during the VSI.

Date of Start-up: The inorganic lab began in 1981, while the organic lab began in 1990.

Date of Closure: These units are presently active with no anticipated date of closure.

Waste Managed: Liquid and solid wastes from Clean Harbors, customers.

Release Controls: These labs are located inside of process building #1. All wastes are containerized and all sink and floor drains in the inorganic lab empty into the sludge tank (SWMU #26). The one sink in the organic lab empties into a five gallon container that is disposed

along with the methylene chloride in drums (SWMU #36).

History of Releases: There have been no documented releases reported nor have any been observed from this unit.

Conclusions: Soil/Groundwater: The release potential to the soil/groundwater is high in the inorganic lab since the integrity of the floor and sink drains are unknown. The release potential to the soil/groundwater in the organic lab is low due to unit design.

Surface Water: The release potential to surface water from both labs is low due to unit design.

Air: The release potential to air from both labs is low due to unit design.

Subsurface Gas: The potential for the generation of subsurface gas from both labs is low due to unit design.

Unit No.: SWMU No. 13

Unit Name: Oil/Water Separator
(Photo #45)

Unit Description: This unit is located inside, on the north end of process building #1 (see Attachment A). This unit includes two 6,000 gallon reactor tanks, one 6,000 gallon oil collection tank, one 6,000 gallon cuff collection tank, 500 gpm receiving pump, 1.5 million BTU steam generator, 300 gpm receiving/recirculating pump and a 100 gpm transfer pump. Oil and grease contaminated wastes are pumped from one of the concrete receiving tanks (SWMU #31) into one of the 6,000 gallon reactor vessels. Oil and aqueous separation is achieved by adjusting the pH to 2, heating the material to 104 F with steam and adding demulsifying agents. The water is decanted to the mix tank for primary treatment and the oil is pumped to the oil collection tank and the cuff is pumped to the cuff collection tank. The oil and cuff are shipped off-site to Breslube (E. Chicago, IN) or Systech (Greencastle, IN.) for recycling. All four tanks are vented to the carbon absorption system (SWMU #10). The tanks are constructed of carbon steel, with a one inch thick polyurethane foam interior liner. The tanks are on a concrete floor with a one foot high concrete curb surrounding the tank area. The tank containment system has a sump that pumps any material from spills or leaks into one of the reactor tanks. The concrete floor and curbing were in good condition, with no cracks observed during the VSI. A few spills were observed within the containment area. The tanks contained the following amounts during the VSI: reactor tank 1-4,000 gallons, reactor tank 2-4,500 gallons and the oil collection tank and the cuff collection tank both contained less than 1,000 gallons.

Date of Start-up: 1984.

Date of Closure: This unit is presently active with no

anticipated date of closure.

Waste Managed: Non-hazardous water contaminated with oils or coolants.

Release Controls: The tanks are located within a one foot high concrete curb that has a containment capacity of 1,660 gallons. A sump is located in the containment system to collect any material and pump it back into one of the reactor tanks.

History of Releases: There have been no documented releases reported nor have any been observed from this unit.

Conclusions: Soil/Groundwater: The release potential to the soil/groundwater is high since the integrity of the sump is unknown.

Surface Water: The release potential to surface water is low due to unit design.

Air: The release potential to air is low due to unit design.

Subsurface Gas: The potential for the generation of subsurface gas is low due to unit design.

Unit No.: SWMU No. 14

Unit Name: Former 10,000 Gallon Sludge Feed Tank
(Photo #54)

Unit Description: This unit was located inside, on the north end of process building #1 (see Attachment A). The 10,000 gallon steel tank was used for the temporary storage of sludge until the sludge could be pumped to the former rotary filter press (SWMU #34). The tank was located on a concrete floor, near a floor drain. The material that was collected in this floor drain was pumped into the sludge tank (SWMU #26). This tank no longer exists in this area, but the concrete appeared to be in good condition.

Date of Start-up: 1981.

Date of Closure: This tank has not been used since 1986 when the present system (SWMU #33) began.

Waste Managed: Concentrated metal hydroxide sludge and non-hazardous wastewater treatment sludge.

Release Controls: A nearby floor drain was used to collect any spills or leaks from the tank. The floor drain flows into the 13,000 gallon sludge tank (SWMU #26).

History of Releases: There have been no documented releases reported nor have any been observed from this unit.

Conclusions: Soil/Groundwater: The past release potential to the soil/groundwater was moderate since the integrity of the floor drain is unknown. The present release is low since wastes are no longer managed in this area.

Surface Water: The past and present release potential to surface water is low due to unit design.

Air: The past and present release potential to air is low due to unit design.

Subsurface Gas: The past and present release potential for the generation of subsurface gas is low due to unit design.

Unit No.: SWMU No. 15

Unit Name: Auxiliary Basin #3
(Photo #19)

Unit Description: This unit was located southwest of the present tank farm (SWMU #27-#30) (see Attachment B). This unit was used by Hyon Services, Inc. (also known as International Hydronics Corporation and Envirotherm) for the storage of wastewater, stormwater, incinerator scrubber water and partially neutralized pickle liquor. The basin also received some oily material which was found during a 1973 inspection at the site. The basin had a capacity of five million gallons and was kept full to capacity. The basin was filled in sometime between 1979 and 1981. The fill material used has not been determined, but may have been from the neutralizing of pickle liquor. The basin is now covered with weeds and other types of brushy material.

Date of Start-up: 1973.

Date of Closure: This unit has not been used since 1979.

Waste Managed: Stormwater, wastewater, scrubber water from the Hyon incinerator and partially neutralized pickle liquor.

Release Controls: The basin was constructed below the adjacent road grade to allow for adequate freeboard. No other containment measures are known.

History of Releases: There have been no documented releases reported nor have any been observed from this unit. However, the levels in the basin have risen to within eight inches of the top.

Conclusions: Soil/Groundwater: The past release potential to the soil/groundwater was high due to the possibility of an inadequate liner. The present release potential is low since the site is now covered.

Surface Water: The past release potential to surface water was high due

to the proximity of the lake from the basin. The present release potential is low since the basin is covered.

Air: The past release potential to air was high due to the types of materials that may have been stored in the basin. The present release potential is low since the basin is covered.

Subsurface Gas: The past and present potential for the generation of subsurface gas is since the basin is covered.

Unit No.: SWMU No. 16

Unit Name: Landfill
(Photo #20)

Unit Description: This unit was located on the west end of the pier, just west of the auxiliary basin (SWMU #15) (see Attachment B). This area was used to construct the west end of the pier and also dispose of the neutralized pickle liquor sludge. Supposedly the sludge was not disposed near the lake edge, but air photos indicate piles near the edge of the lake. The landfill is now covered by three to four feet high weeds and brush used by sea gulls for nesting.

Date of Start-up: Early 1970's.

Date of Closure: This unit has not been used since 1980.

Waste Managed: Stabilized acid-lime sludge.

Release Controls: No known release controls existed during the landfilling of wastes.

History of Releases: There are no documented releases reported or observed from this unit.

Conclusions: Soil/Groundwater: The past release potential to the soil/groundwater was high due to the lack of containment. The present release potential is moderate since the material is still present.

Surface Water: The past release potential to surface water was high due to the lack of containment. The present release potential is moderate since the material may not be entirely covered.

Air: The past and present release potential to air is low due to the type design.

Subsurface Gas: The past and present release potential for the generation of subsurface gas is low due to the types of waste managed.

Unit No.: SWMU No. 17

Unit Name: Temporary Pickle Liquor Basins
(No Photo Available)

Unit Description: These units were located on the east part of the pier, just east of auxiliary basin #3 (SWMU #15) (see Attachment B). The two temporary pickle liquor basins were used to neutralize pickle liquor (composed of sulfuric acid and iron sulfate) with lime, resulting in calcium sulfate and iron oxide. The approximate dimensions of the two basins were reported to be 300 feet by 50 feet by 6 feet deep. The basin depth was actually 8 feet deep, but a two foot freeboard was required during operation. The anticipated capacity of each basin was estimated at 500,000 gallons. The resulting sludge from the basins was used for fill in the area west of the auxiliary basin (SWMU #15). This area is now part of the tank farm (SWMU #27-#30).

Date of Start-up: 1973.

Date of Closure: This unit has not been used since 1973.

Waste Managed: Pickle liquor.

Release Controls: A two foot freeboard was required around the basins, but may have been breached. No known liner exists for either basin.

History of Releases: There have been no documented releases reported or observed from this unit.

Conclusions: Soil/Groundwater: The past release potential to the soil/groundwater was high due to the types of waste managed and the lack of secondary containment. The present release potential is moderate since wastes may still be in this area.

Surface Water: The past release potential to surface water was high due to the types of waste managed and the lack of secondary containment. The present release potential is low since

the basins have been covered.

Air: The past release potential to air was moderate due to the possibility of other wastes disposed in the basins. The present release potential is low since the basins are now covered.

Subsurface Gas: The past and present potential for the generation of subsurface gas is moderate due to the possibility of other wastes disposed in the basins.

Unit No.: SWMU No. 18

Unit Name: Old Pickle Liquor Disposal Sites
(Photo #15)

Unit Description: This unit was located on the east side of the facility, just west of the current access road (see Attachment B). This area was used to neutralize pickle liquor with lime resulting in calcium sulfate and iron oxide. The approximate area used was 350 feet by 275 feet with the depth unknown. The area is now seeded with grass and currently not used by Clean Harbors.

Date of Start-up: 1972.

Date of Closure: This area has not been used since 1973.

Waste Managed: Pickle liquor.

Release Controls: There were no known containment measures implemented at the time of operation.

History of Releases: There are no documented releases reported or observed from this unit.

Conclusions: Soil/Groundwater: The past release potential to the soil/groundwater was high due to the type of wastes managed and the lack of secondary containment. The present release is moderate since wastes may still be in this area.

Surface Water: The past release potential to surface water is high due to the proximity of the lake. The present release is low since the area is now covered.

Air: The past release potential to air was moderate since the exact type of wastes managed is unknown. The present release potential is low since the area is now covered.

Subsurface Gas: The past and present potential for the generation of subsurface gas is moderate due to the possibility of other wastes disposed in the basins.

Unit No.: SWMU No. 19

Unit Name: Permanent Pickle Liquor Basins
(Photo #15 and #16)

Unit Description: These units were located on the east end of the pier, just west of the old pickle liquor disposal sits (SWMU #18) (see Attachment B). These permanent pickle liquor basins were used to neutralize pickle liquor with lime, resulting in calcium sulfate and iron oxide. The basins were constructed with a lime liner to an unspecified depth. The dimensions are unknown, but inspections indicate that basins may have been 150 feet by 30 feet. The daily receipts for pickle liquor averaged between 4,500 gallon and 50,000 gallons. The resulting sludge from the basins was used for roads or placed in the landfill (SWMU #16) on the west end of the pier. The site office trailer is now located on this part of the site.

Date of Start-up: 1973.

Date of Closure: This area has not been used since 1979.

Waste Managed: Pickle liquor.

Release Controls: There were no known containment measures implemented at the time of operation.

History of Releases: There are no documented releases reported or observed from this unit.

Conclusions: Soil/Groundwater: The past release potential to the soil/groundwater was high due to the type of wastes managed and the lack of secondary containment. The present release is moderate since wastes may still be in this area.

Surface Water: The past release potential to surface water is high due to the proximity of the lake. The present release is low since the area is now covered.

Air: The past release potential to air was moderate since the exact type of

wastes managed is unknown. The present release potential is low since the area is now covered.

Subsurface Gas: The past and present potential for the generation of subsurface gas is moderate due to the possibility of other wastes disposed in the basins.

Unit No.: SWMU No. 20

Unit Name: Oil Basin
(Photo #16 and #17)

Unit Description: This unit was located on the east side of the temporary pickle liquor basins (SWMU #17) (see Attachment B). The oil basin was used to store an oil/water mixture from a Mobil Oil (Joliet, IL) spill. The oil basin, lined with lime, was approximately 250 feet (on a side) square. A two foot above road grade berm was intact on all sides except one, where the berm in that area was near road grade level. In 1973, a majority of the basin was filled in leaving only a 50 foot by 50 foot basin. The oil left in this basin was apparently used for road application.

Date of Start-up: 1972.

Date of Closure: The last time this unit was used is unknown.

Waste Managed: Oil/water mixture.

Release Controls: There were no known containment measures implemented at the time of operation.

History of Releases: A 1973 report indicates some oil from the oil basin area had been discharged into Lake Calumet.

Conclusions: Soil/Groundwater: The past release potential to the soil/groundwater was high due to the lack of secondary containment. The present release potential is moderate since the waste may still be in this area.

Surface Water: The past release potential to surface water was high since contaminants were documented in Lake Calumet. The present release potential is low since the basin is covered.

Air: The past release potential to air was moderate since the type of wastes is unknown. The present release potential is low since the basin is

covered.

Subsurface Gas: The past and present potential for the generation of subsurface gas is moderate due to the possibility of other wastes disposed in the basins.

Unit No.: SWMU No. 21

Unit Name: Lime Basin
(Photo #17)

Unit Description: This unit was located on the east side of the pier, just east of the north of the oil basin (see Attachment B). This area is currently used as an access road into the site. The lime basin was used for the storage of lime, which was added to the pickle liquor solutions. The basin was also used at least once for the storage of pickle liquor. The dimensions of this unit are unknown.

Date of Start-up: 1973.

Date of Closure: The last time this unit was used is unknown.

Waste Managed: Lime and pickle liquor.

Release Controls: There were no known containment measures implemented at the time of operation.

History of Releases: There are no documented releases reported or observed from this unit.

Conclusions: Soil/Groundwater: The past release potential to the soil/groundwater was high due to the type of wastes managed and the lack of secondary containment. The present release is moderate since wastes may still be in this area.

Surface Water: The past release potential to surface water is high due to the proximity of the lake. The present release is low since the area is now covered.

Air: The past release potential to air was moderate since the exact type of wastes managed is unknown. The present release potential is low since the area is now covered.

Subsurface Gas: The past and present potential for the generation of subsurface gas is moderate due to the possibility of other wastes disposed in the basins.

Unit No.: SWMU No. 22

Unit Name: Chemical Reduction/Oxidation
Pretreatment System
(Photo #29, #46 and #47)

Unit Description: This unit is located on the west side of Process building #1, just south of the oil/water separator (SWMU #13) (see Attachment A). This unit includes the following equipment: three mixers with axial flow turbines, one reactor vessel with three compartments, 350 gpm recycle and transfer pump, inorganic lab pack pour-off station, 3000 cfm exhaust blower, two scrubbers, two 40 gpm recirculating pumps, two overflow collection tanks, 2000 cfm blower, 20 gpm transfer pump and one overflow transfer pump. Wastes from the receiving tanks, the inorganic lab pack pour-off station or the portable drum pumping station are pumped into the three compartment pretreatment reactor. The acid wastes are neutralized using sodium hydroxide or lime slurry, while alkaline wastes are neutralized with sulfuric acid, aluminum sulfate or ferric chloride. Some wastes need to be oxidized using hydrogen peroxide and potassium permanganate and reducing agents such as sodium bisulfite and sulfur dioxide are used for hexavalent chromium. Ammonia wastes are pH adjusted to high pH levels so the ammonia can freely release or can be stripped in the air scrubbers. The waste after it is pretreated is pumped into the mix tank for primary treatment or into the sludge tank (SWMU #26). This unit is inside process building #1, on a concrete floor. The 13,000 gallon sludge tank (SWMU #26) is located nearby to collect any spills. Scrubbers are associated with this unit to control any emissions from the pretreatment reactors. No spills were observed in this area during the VSI, but the concrete around the base of the reactor had deteriorated and a few cracks were observed.

Date of Start-up: The inorganic lab pack pour-off station began in 1990, the two scrubbers in

1987 and the rest of this unit began operations in 1981.

Date of Closure: This unit is presently active with no anticipated date for closure.

Waste Managed: Any waste that can be accepted for treatment which includes: spent pickle, corrosive metal cleaning washes and stripping baths, non-hazardous sludges for dewatering, non-hazardous wastewater from cleaning tanks, non-hazardous waste from the flushing of coolant systems, battery industry waste and the waste from the washing and cleaning of tanks and equipment containing alkaline or acid solutions.

Release Controls: The pretreatment system is contained on a concrete floor with the sludge tank (SWMU #26) nearby to collect any spills.

History of Releases: There was a possibly release of acid fumes from this unit in 1986. Details of this incident are unknown.

Conclusions: Soil/Groundwater: The release potential to the soil/groundwater is moderate due to the cracks in the concrete and the deteriorated condition of the concrete.

Surface Water: The release potential to surface water is low due to unit design.

Air: The release potential to air is low due to unit design and is regulated by IEPA's Air Pollution Division.

Subsurface Gas: The release potential for the generation of subsurface gas is low due to unit design.

Unit No.: SWMU No. 23

Unit Name: Special Waste Storage Tank
(Photo #48, #53 and #54)

Unit Description: This unit is located inside, on the southwest end of process building #1 (see Attachment A). The special waste storage tank is constructed of stainless steel, 14 feet high and a diameter of 8 feet. The total capacity of the tank is 5,000 gallons. The tank is used to store ammonium sulfate that is pumped from the acid scrubber (SWMU #22). The ammonium sulfate is then pumped into tank #1 (SWMU #27) for treatment. The tank is on a concrete floor, with the sludge tank (SWMU #26) nearby to collect any spills or leaks. No cracks were observed in the concrete during the VSI.

Date of Start-up: 1987.

Date of Closure: This unit is presently active with no anticipated date of closure.

Waste Managed: Ammonium sulfate.

Release Controls: The tank is on a concrete floor with the 13,000 gallon sludge tank (SWMU #26) nearby to collect any spills or leaks.

History of Releases: There have been no documented releases reported nor have any been observed from this unit.

Conclusions: Soil/Groundwater: The release potential to the soil/groundwater is low due to unit design.

Surface Water: The release potential to surface water is low due to unit design.

Air: The release potential to air is low due to unit design.

Subsurface Gas: The potential for the generation of subsurface gas is low due to unit design.

Unit No.: SWMU No. 24

Unit Name: Oil Contaminated Soil Storage Area
(Photo #10)

Unit Description: This unit is located outside, on the southeast part of the site (see Attachment A). This area was used as an emergency storage area for three 20 cubic yard roll-off boxes full of oil contaminated soil and clean-up equipment. The dumpsters were placed in a 50 foot by 20 foot gravel area. The dumpsters were in this area approximately one month, prior to off-site disposal. The gravel did not have any visible stains and no soil was observed in this area during the VSI.

Date of Start-up: 1990.

Date of Closure: This unit is presently active with no anticipated date of closure.

Waste Managed: Oil contaminated soil and equipment.

Release Controls: The containers are stored on a gravel lot with no other secondary containment measures.

History of Releases: There have been no documented releases reported nor have any been observed from this unit.

Conclusions: Soil/Groundwater: The release potential to the soil/groundwater is moderate due to the lack of containment.

Surface Water: The release potential to surface water is moderate due to the lack of containment.

Air: The release potential to air is low due to the type of waste managed.

Subsurface Gas: The potential for the generation of subsurface gas is low due to the type of waste managed.

Unit No.: SWMU No. 25

Unit Name: Chemical Treatment Unit
(Photo #24, #26, #49, #52 and #53)

Unit Description: This unit is located inside, on the south part of process building #1 (see Attachment A). This unit includes the following equipment: two 150 gpm treatment feed pumps, ultrasonic flow meter, four chamber chemical treatment unit, flow distribution center, four gravitators (clarifiers), secondary clarifier, 200 gpm effluent transfer pump, clarifier collection tank, 150 gpm secondary treatment feed pump, two 3000 gallon mixing tanks and a 850 gallon flocculator tank. Waste is received in the chemical treatment unit from either tank #2 (SWMU #28) or tank #4 (SWMU #30). The waste is received in the first chamber, where sodium hydroxide or lime slurry is used to precipitate out metal hydroxides. The waste then gravity flows into the other three chambers to be mixed with the following chemicals: second chamber-aluminum sulfate, third chamber-sodium sulfide and the fourth chamber- various polymers. The solids are pumped into the 13,000 gallon sludge tank (SWMU #26) and the clarified effluent flows into a collection tank. When the collection tank is full, the effluent goes through a secondary treatment process by which additional solids settle out. These solids are also pumped into the sludge tank (SWMU #26) and the clarified effluent is pumped into tank #1 (SWMU #27) for discharge into the process sewer system (SWMU #6). All tanks and associated pipes are in good condition with no evidence of spills or leaks. The 13,000 gallon sludge tank collects all spills and leaks from these tanks. The concrete was in good condition and no cracks were observed in this area during the VSI. Approximately 10,000 gallons were present in the unit at the time of the VSI.

Date of Start-up: The chemical treatment unit began in 1981 and the secondary treatment unit

began in 1988.

Date of Closure: This unit is presently active with no anticipated date of closure.

Waste Managed: Waste accepted for treatment which includes: spent pickle liquor, corrosive metal cleaning washes and stripping baths, non-hazardous sludges for dewatering, non-hazardous wastewater from cleaning tanks, non-hazardous wastes from the flushing of coolant systems, battery industry waste and the waste from the washing and cleaning of tanks and equipment containing alkaline and acid solutions.

Release Controls: These units are located on a concrete floor that slopes toward the 13,000 gallon sludge tank (SWMU #26). No other containment measures are known.

History of Releases: There have been no documented releases reported nor have any been observed from this unit.

Conclusions: Soil/Groundwater: The release potential to the soil/groundwater is low due to unit design.

Surface Water: The release potential to surface water is low due to unit design.

Air: The release potential to air is low due to unit design.

Subsurface Gas: The potential for the generation of subsurface gas is low due to unit design.

Unit No.: SWMU No. 26

Unit Name: 13,000 Gallon Concrete Sludge Tank
(Photo #30)

Unit Description: This unit is located inside, on the southwest part of process building #1 (see Attachment A). This unit includes one 13,000 gallon in-ground lined concrete tank and one 100 gpm sludge transfer pump. Solids from the chemical treatment unit (SWMU #25), the pretreatment system (SWMU #22) and wastes from the inorganic lab (SWMU #11) (from the sinks and drains) are pumped into the tank. The contents of the 13,000 gallon sludge tank are pumped into tank #3 (SWMU #29) for further settling. The tank is constructed of 8 inch concrete with a pvc liner. The amount of waste present in the tank at the time of the VSI was 10,000 gallons.

Date of Start-up: 1981.

Date of Closure: This unit is presently active with no anticipated date of closure.

Waste Managed: Waste from the treatment unit, pretreatment unit, floor drains, wash water, pump seal water and lab drains.

Release Controls: The tank is constructed of 8 inch thick concrete, with a pvc liner. A pipe is located near the bottom of the tank to transfer the waste into tank #3 (SWMU #29).

History of Releases: There have been no documented releases reported nor have any been observed from this unit.

Conclusions: Soil/Groundwater: The release potential to the soil/groundwater is low moderate since the integrity of in ground tank and underground piping is unknown.

Surface Water: The release potential to surface water is low due to unit design.

Air: The release potential to air is

low due to unit design.

Subsurface Gas: The potential for the generation of subsurface gas is low due to unit design.

Unit No.: SWMU Nos. 27-30

Unit Name: Hazardous and Solid Waste Storage Tanks
(Photo #2, #3, #4, #5, #6 and #7)

Unit Description: The hazardous and solid waste storage tanks are located outside on the west side of process building #1 (see Attachment A). The four tanks are closed top (fixed roof) steel construction. The tanks have an inner surface coating consisting of a coal tar base epoxy coating, one coat carbomastic #3 primer and one coat carbomastic #14 finish. The external portions of the tanks are painted with epoxy paint. The tanks are supported by 12 inch thick reinforced concrete foundations and the areas within the foundations are lined with a pvc liner. The four tanks are located within a diked area (having a total capacity of 465,000 gallons) that is also lined with a pvc liner. The inside of the diked area has two concrete in ground sumps to collect any spills and rainwater. The sumps pump the material back into the tanks or into the concrete receiving tanks. Tank #1 (SWMU #27) has a total capacity of 188,500 gallons and is used for the storage of process effluent. The effluent pumped from the treatment unit (SWMU #25) is stored in this tank prior to discharge into the process sewer system (SWMU #6). Tank 1 contained approximately 25,000 gallons on the day of the VSI. Tank #2 (SWMU #28) has a total capacity of 212,000 gallons and is used as a primary settling tank. Wastes from the concrete receiving tanks (SWMU #31) are pumped into this tank for initial settling purposes. The solids that settle out are pumped into tank #3 (SWMU #29) and the remaining material is pumped into tank #4 (SWMU #30). Tank #2 contained approximately 180,000 gallons on the day of the VSI. Tank #3 (SWMU #29) has a total capacity of 212,000 gallons and is used to store unconcentrated solids. The material is stored in this tank until the sludge can be pumped to the sludge dewatering system (SWMU #33) or

the liquid can be pumped back into one of the receiving tanks (SWMU #31). Tank #3 contained approximately 195,000 gallons on the day of the VSI. Tank #4 (SWMU #30) has a capacity of 424,000 gallons and is used in conjunction with tank #2 (SWMU #28). Liquid waste material is stored in this tank until it can be pumped into the chemical treatment system (SWMU #25) and the solid material is pumped into tank #3 (SWMU #29). Tank #4 contained approximately 320,000 gallons on the day of the VSI. The dike area was in good condition and no evidence of spills or leaks was observed during the VSI.

Date of Start-up: All tanks were constructed in 1981.

Date of Closure: This unit is presently active with no anticipated date of closure.

Waste Managed: Tanks #2 (SWMU #28) and Tank #4 (SWMU #30) store any waste that can be accepted for treatment which includes: spent pickle liquor, corrosive metal cleaning washes and stripping baths, non-hazardous sludges for dewatering, non-hazardous wastewater from cleaning tanks, non-hazardous wastes from the flushing of coolant systems, battery industry waste and the waste from the washing and cleaning of tanks and equipment containing alkaline and acid solutions. Tank #1 (SWMU #27) stores treated effluent and tank #3 (SWMU #29) stores treated waste material.

Release Controls: Any spills from these tanks will be collected in one of two in ground concrete sumps or contained within the dike until it can be pumped back into one of the tanks. The dike area has a gravel bottom with a pvc liner underneath.

History of Releases: In 1985, 100,000 gallons of concentrated sludge was released from a pipe connected to tank #3 (SWMU #29). The sludge was contained within the diked area and was eventually pumped back into tank #3.

Conclusions: Soil/Groundwater: The release potential to the soil/groundwater is moderate since the integrity of the in-ground sumps are unknown.

Surface Water: The release potential to surface water is low due to unit design.

Air: The release potential to air is low due to unit design.

Subsurface Gas: The potential for the generation of subsurface gas is low due to unit design.

Unit No.: SWMU No. 31

Unit Name: 7,000 Gallon Concrete Receiving Tanks
(Photo #9, #11, #13 and #25)

Unit Description: This unit is located on the south side of process building #1 (see Attachment A). This unit consists of four 7,000 gallon in-ground concrete receiving tanks, a 225 gallon collection sump, a 50 gpm sump pump and four 500 gpm receiving pumps. Waste is off-loaded into one of the four receiving tanks, after an analysis of the waste determines the appropriate treatment process. The waste in the receiving tanks is pumped into tank #2 (SWMU #28) or tank #4 (SWMU #30) prior to treatment or to the oil/water separator system (SWMU #13). No cracks were observed in the concrete receiving tanks during the VSI because the tanks contained waste material (receiving tank 1 - 4,500 gallons, receiving tank 2 - 2,000 gallons and receiving tanks 3 and 4 had 2,500 gallons each). A 225 gallon sump collects spills and was full of material at the time of the VSI.

Date of Start-up: 1981.

Date of Closure: This unit is presently active with no anticipated date of closure.

Waste Managed: Waste accepted for treatment which includes: spent pickle liquor, corrosive metal cleaning washes and stripping baths, non-hazardous sludges for dewatering, non-hazardous wastewater from cleaning tanks, non-hazardous wastes from the flushing of coolant systems, battery industry waste and the waste from the washing and cleaning of tanks and equipment containing alkaline and acid solutions.

Release Controls: A 225 gallon collection sump collects any spills from off-loading and pumps the material back into the receiving tanks. The treatment operator periodically checks the level of waste in each receiving tank. The receiving tanks also have a pvc liner underneath

and are emptied monthly so they can be inspected.

History of Releases: On November 8, 1983 and July 13, 1987 emissions were observed coming from one of the four receiving tanks. The load on November 8 was off-loaded after diluting the load with water to deter gas fumes and the July 13 load was returned to the generator. No injuries or damage were reported from either incident.

Conclusions: Soil/Groundwater: The release potential to the soil/groundwater is high because the integrity of the collection sump is unknown.

Surface Water: The release potential to surface water is low due to unit design.

Air: The release potential to air is moderate due to past incidents from off-loading and the lack of an overhead structure to contain any fume releases.

Subsurface Gas: The potential for the generation of subsurface gas is low due to unit design.

Unit No.: SWMU No. 32

Unit Name: Truck Unloading Pad
(Photo #9 and #12)

Unit Description: This unit is located on the south side of processing building #1, just south of the receiving tanks (see Attachment A). The incoming tank trucks are parked on a concrete pad measuring 48 feet long by 36 feet wide. The concrete pad slopes down toward the receiving tanks (SWMU #31), where a 225 gallon collection sump is located. The spills collected in the sump (along with any rainwater) are pumped back into one of the four receiving tanks. The pad did not have any curbing around the outer edges of the concrete, with a few cracks observed in the concrete pad. During the VSI, the sump was full material and could not be examined.

Date of Start-up: 1981.

Date of Closure: This unit is currently active with no anticipated date for closure.

Waste Managed: Waste accepted for treatment which includes: spent pickle liquor, corrosive metal cleaning washes and stripping baths, non-hazardous sludges for dewatering, non-hazardous wastewater from cleaning tanks, non-hazardous wastes from the flushing of coolant systems, battery industry waste and the waste from the washing and cleaning of tanks and equipment containing alkaline and acid solutions.

Release Controls: A 225 gallon collection sump collects any spills and rainwater from the unloading pad. The material collected is pumped back into one of the receiving tanks (SWMU #31).

History of Releases: During the November 8, 1983 sulfuric/nitric acid incident at the plant, a small amount of acid was spilled on the pad. The pad was rinsed, with the contaminants flushed into the collection sump.

Conclusions: Soil/Groundwater: The release

potential to the soil/groundwater is high due to cracks in the unloading pad and since the integrity of the collection sump is unknown.

Surface Water: The release potential to surface water is low due to unit design.

Air: The release potential to air is moderate due to the past releases from off-loading trucks.

Subsurface Gas: The potential for the generation of subsurface gas is low due to unit design.

Unit No.: SWMU No. 33

Unit Name: Sludge Dewatering System
(Photo #38, #39, #40, #41, #43 and #44)

Unit Description: This unit is located inside on the east end of process building #2 (see Attachment A). The equipment associated with this unit includes: a steel 10,000 gallon sludge conditioning tank, two filter feed pumps, two 500 gallon lime slurry tanks, a 200 gpm lime slurry feed tank, a 400 cfm blower, baghouse and a 120 cubic foot recessed chamber pressure filter. Sludge from the 13,000 gallon tank (SWMU #26) is pumped into the sludge conditioning tank where lime slurry and polymers are added. The sludge is then pumped to the frame filter press for solidification. Solids from the filter press drop into a 35 cubic yard trailer that is stationed below the filter press. Spills from the tank area of this process are collected in a sump that is pumped back into the 13,000 gallon tank (SWMU #26). The sludge from the filter press, when spilled, is shoveled up and dumped into the trailer. No spills or cracks in the concrete were observed during the VSI. The 35 cubic yard trailer was approximately half full of sludge.

Date of Start-up: 1986.

Date of Closure: This area is presently active with no anticipated date for closure.

Waste Managed: Concentrated metal hydroxide sludge and non-hazardous wastewater treatment sludge.

Release Controls: Any spills from the tanks will be collected in a sump and will be pumped back into the 13,000 gallon tank (SWMU #26). The entire area of the sludge dewatering system is on a concrete floor with curbing to hold spills in the sump area.

History of Releases: There are no documented releases reported or observed from this unit.

Conclusions: Soil/Groundwater: The release potential to the soil/groundwater is moderate since the integrity of the sump is unknown.

Surface Water: The release potential to surface water is low due to unit design.

Air: The release potential to air is low due to the type of waste managed.

Subsurface Gas: The potential for the generation of subsurface gas is low due to the type of waste managed.

Unit No.: SWMU No. 34

Unit Name: Former Rotary Filter Press Area
(Photo #27, #28 and #53)

Unit Description: This unit was located inside on the southwest side of process building #1, in the area now occupied by the process sewer system (SWMU #6) (see Attachment A). The sludge was pumped into the sludge concentrator, with the settled solids from this tank pumped into the filter press. The filter press produced a sludge that contained 30 to 40 percent solids by weight. The sludge was then discharged into one of two 20 cubic yard trailers placed outside on the former sludge storage pad (SWMU #8). The supernatant from the sludge concentrator was pumped back through the treatment cycle. The filter press was located on a concrete floor, with the 13,000 gallon in-ground tank (SWMU #26) near to handle any spills. No cracks in the concrete floor were observed during the VSI.

Date of Start-up: 1981.

Date of Closure: This unit has not been used since the new filter press began operating in 1986.

Waste Managed: Concentrated metal hydroxide sludge and non-hazardous wastewater treatment sludge.

Release Controls: The 13,000 gallon tank (SWMU #26) collected any spills from the filter press area.

History of Releases: There have been no documented releases reported nor have any been observed from this unit.

Conclusions: Soil/Groundwater: The past release potential to the soil/groundwater was low due to unit design. The present release to the soil/groundwater is low since this process no longer exists in this area.

Surface Water: The past release potential to surface water was low due

to unit design. The present release potential is low since this process no longer exists in this area.

Air: The past release potential to air was low due to unit design. The present release potential to air is low since this process no longer exists in this area.

Subsurface Gas: The past potential for the generation of subsurface gas was low due to the nature of the waste managed. The present release potential is low since this process no longer exists in this area.

Unit No.: SWMU No. 35

Unit Name: Mobile Filter Press
(Photo #8 and #12)

Unit Description: This unit is located on the southeast side of process building #2, on the west side of the truck unloading pad (SWMU #23) (see Attachment A). The mobile filter press is only used when the sludge dewatering system (SWMU #33) can not handle the load of material to be processed. Concentrated metal hydroxide sludge from the sludge concentrator (SWMU #33) is pumped into the filter press. The sludge, pumped into the chambers, is dewatered then discharged into a 35 cubic yard trailer. The sludge is hauled to Winthrop Harbor where it is landfilled. The mobile filter press is located outside on the truck unloading pad (SWMU #23) and the gravel lot. No visible spills or cracks in the concrete around the mobile filter press were observed during the VSI. The filter press apparently moves from site to site (Clean Harbor facilities only), but remains primarily at the Chicago plant.

Date of Start-up: 1986.

Date of Closure: This unit is presently active with no anticipated date for closure.

Waste Managed: Concentrated metal hydroxide sludge and non-hazardous wastewater treatment sludge.

Release Controls: A collection sump is located at the north end of the truck unloading pad (SWMU #23) to collect any spills. A metal box underneath the conveyor belt will collect any sludge falling off the belt. There is no containment underneath the gravel lot.

History of Releases: There are no documented releases reported or observed from this unit.

Conclusions: Soil/Groundwater: The release potential to the soil/groundwater is low due to unit design and type of

waste managed.

Surface Water: The release potential to surface water is low due to unit design and type of waste managed.

Air: The release potential to air is low due to unit design and type of waste managed.

Subsurface Gas: The release potential for the generation of subsurface gas is low due to unit design and type of waste managed.

Unit No.: SWMU No. 36

Unit Name: Inside Drum Storage Area
(Photo #31)

Unit Description: This unit is located on the west side of process building #1, just east of the tank farm (see Attachment A). This area is used for the storage of waste flammable liquid (D001) from the carbon absorption unit (SWMU #10) and laboratory wastes. The waste, in drums, is transported to the Clean Harbors facility in Baintree, Massachusetts for reclamation. The frequency of shipments to the Baintree facility is dependent on the amount of waste collected in this area. The waste is stored in 55-gallon drums, inside a building, on a concrete floor with a floor sump used to collect spills. Any material collected in the floor sump is pumped back into the receiving tanks (SWMU #31). No cracks were observed in the concrete and no cracks or material was observed in the floor sump. Three drums, all in good condition, were in this area during the VSI.

Date of Start-up: 1985.

Date of Closure: This unit is presently active with no anticipated date for closure.

Waste Managed: Waste flammable liquid (D001) and laboratory waste.

Release Controls: The drum storage area is located inside a concrete building with concrete floors and walls. The building contains a floor sump that is used to collect spills. Any spills collected would then be pumped back into the receiving tanks (SWMU #31). No visible cracks were observed in the concrete floor or walls of the building.

History of Releases: There are no documented releases reported or observed from this unit.

Conclusions: Soil/Groundwater: The release potential to the soil/groundwater is high since the integrity of the floor

sump is unknown.

Surface Water: The release potential to surface water is low due to unit design and secondary containment.

Air: The release potential to air is low due to unit design.

Subsurface Gas: The release potential for the generation of subsurface gas is low due to unit design and secondary containment.

TABLE 6 SUMMARY OF ON-SITE TANKS

<u>SWMU NO.</u>	<u>TANK NO.</u>	<u>DESCRIPTION</u>	<u>DESIGN CAPACITY (GALLONS)</u>	<u>OPERATING CAPACITY (GALLONS)</u>	<u>CONSTRUCTION MATERIAL</u>	<u>YEAR BUILT</u>	<u>PRIMARY USE</u>
1	42	Effluent collection tank	1050	900	Carbon steel	1987	Surge tank for the sewer discharge
13	55	Two reactor vessels	6000	5600	Carbon steel	1987	Oil waste treatment for demulsification.
13	59	Two product storage tanks	6000	5600	Carbon steel	1984	Storage of recovered oil and "cuff".
22	1	3 Compartment reactor vessel	13000	11500	Carbon steel	1980	Batch treatment of strong and incompatible waste.
23	60	Waste storage tank	5200	4800	FRP	1984	Storage of waste needing pretreatment
25	17	Chemical treatment unit	4800	4300	Carbon steel	1980	Batch pretreatment of strong and incompatible wastes.
25	19	Four gravitators	2450	2300	Carbon steel	1980	Precipitate flocculated metal hydroxides and solids.
25	20	Secondary clarifier	6450	6100	Carbon steel	1980	Precipitate flocculated metal hydroxides and solids.
25	49	Clarifier collection tank	1900	1700	Carbon steel	1987	Surge tank for secondary treatment feed.
25	51	1st secondary treatment tank	318	265	Carbon steel	unknown	Chemical mixing for metals precipitation
25	52	2nd secondary treatment tank	318	265	Carbon steel	1987	Chemical mixing for metals precipitation
25	53	Flocculator tank	880	730	Carbon steel	1987	Flocculation of precipitate for metals removal.
26	22	Concrete sludge sump	13000	11875	Carbon steel	1980	Collection of underflow from clarifiers.
27	31	Effluent discharge tank	198500	180000	Carbon steel	1980	Collection of treated water for batch discharge.
28	11	Primary storage tank	212000	207000	Carbon steel	1980	Mix and store compatible wastes.
29	14	Sludge concentrator tank	212000	200000	Carbon steel	1980	Sludge thickening and storage.
30	13	Mix tank	424000	403000	Carbon steel	1980	Mix and store compatible wastes.
31	1 & 8	Concrete receiving tanks	7000	6000	Reinforced concrete	1980	Receive individual waste shipments.
33	29	Sludge conditioning tank	10400	9750	Carbon steel	unknown	Prepare sludge for dewatering.

TABLE 7

<u>SWMU NO.</u>	<u>UNIT NAME</u>	<u>SUGGESTED FURTHER ACTION</u>	<u>RELEASE</u>
1	Acid Drum Storage Area	No further action is suggested at this time because waste handling appears to be adequate.	Unknown
2	Alkaline Drum Storage Area	No further action is suggested at this time because waste handling appears to be adequate.	Unknown
3	Organic Drum Storage Area	No further action is suggested at this time because waste handling appears to be adequate.	Unknown
4	Drum Staging Area	No further action is suggested at this time because waste handling appears to be adequate.	Unknown
5	Safety-Kleen Unit	No further action is suggested at this time because waste handling appears to be adequate.	Unknown
6	Process Sewer System	The entire process sewer system should be tested to verify the integrity of the system. If integrity has been breached, sample soils for organic and inorganic compounds.	Unknown
7	Outside Drum Storage Area 1	Soil samples should be taken in the area of the old storage area and analyzed for constituents managed in this area.	Unknown
8	Former Sludge Storage Pad	No further action is suggested at at this time because waste handling appears to be adequate.	Unknown
9	Outside Drum Storage Area 2	Soil samples should be taken around the edges of this storage pad. Samples should be analyzed for constituents managed in this area.	Unknown
10	Carbon Absorption System	No further action is suggested at this time because waste handling appears to be adequate.	Unknown
11	Inorganic Laboratory	The integrity of the floor drains should be verified. If the integrity has been breached, sample soils for constituents managed in this area.	Unknown

TABLE 7 (cont.)

<u>SWMU</u> <u>NO.</u>	<u>UNIT NAME</u>	<u>SUGGESTED FURTHER ACTION</u>	<u>RELEASE</u>
12	Organic Laboratory	No further action is suggested at this time because waste handling appears to be adequate.	Unknown
13	Oil/Water Separator	The integrity of the sump should be verified. If the integrity has been breached, sample soils for constituents managed in this area.	Unknown
14	Former 10,000 Gallon Sludge Feed Tank	The integrity of the floor drain should be verified. If the integrity has been breached, sample soils for constituents managed in this area.	Unknown
15	Auxiliary Basin #3	Sample soils for constituents managed in this area.	Unknown
16	Landfill	Sample soils for constituents managed in this area.	Unknown
17	Former Temporary Pickle Liquor Basins	Sample soils for constituents managed in this area.	Unknown
18	Former Pickle Liquor Disposal Sites	Sample soils for constituents managed in this area.	Unknown
19	Former Permanent Pickle Liquor Basins	Sample soils for constituents managed in this area.	Unknown
20	Former Oil Basin	Sample soils for constituents managed in this area.	Unknown
21	Former Lime Basin	Sample soils for constituents managed in this area.	Unknown
22	Chemical Reduction/Oxidation Pretreatment System	Verify the integrity of the concrete at the base of this unit. If the integrity has been breached, sample soils for constituents managed in this area.	Unknown
23	Special Waste Storage Tank	No further action is suggested at this time because waste handling appears to be adequate.	Unknown

TABLE 7 (cont.)

<u>SWMU NO.</u>	<u>UNIT NAME</u>	<u>SUGGESTED FURTHER ACTION</u>	<u>RELEASE</u>
24	Oil Contaminated Soil Storage Area	Sample soils for constituents managed in this area.	Unknown
25	Chemical Treatment Unit	No further action is suggested at this time because waste handling appears to be adequate.	Unknown
26	13,000 Gallon Concrete Sludge Tank	The integrity of the in-ground tank and associated piping should be verified. If the integrity has been breached, sample soils for constituents managed in this area.	Unknown
27	Tank 1	The integrity of the two in-ground sumps within the tank farm should be verified. If the integrity has been breached, sample soils for constituents managed in this area.	Unknown
28	Tank 2	No further action is suggested at this time because waste handling appears to be adequate. (See SWMU #27)	Unknown
29	Tank 3	No further action is suggested at this time because waste handling appears to be adequate. (See SWMU #27)	Unknown
30	Tank 4	No further action is suggested at this time because waste handling appears to be adequate. (See SWMU #27)	Unknown
31	7,000 Gallon Concrete Receiving Tanks	The integrity of the sump should be verified. If the integrity has been breached, sample soils for constituents managed in this area.	Unknown
32	Truck Unloading Pad	Sample soils around the edge of the pad for constituents managed in this area (sump integrity should be checked as stated in SWMU #31).	Unknown
33	Sludge Dewatering System	The integrity of the sump should be verified. If the integrity has been breached, sample soils for constituents managed in this area.	Unknown

TABLE 7 (cont.)

<u>SWMU</u> <u>NO.</u>	<u>UNIT NAME</u>	<u>SUGGESTED FURTHER ACTION</u>	<u>RELEASE</u>
34	Former Rotary Filter Press	No further action is suggested at this time because waste handling appears to be adequate.	Unknown
35	Mobile Filter Press	No further action is suggested at this time because waste handling appears to be adequate.	Unknown
36	Inside Drum Storage Area	The integrity of the sump should be verified in conjunction with SWMU #10. If the integrity has been breached, sample soils for constituents managed in this area.	Unknown

V. REFERENCES

Clean Harbors of Chicago, Inc., September 28, 1990 revised February 19, 1991, Part B Permit Application.

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Illinois EPA Division of Air Pollution Control files for the Clean Harbors of Chicago, Inc. facility.

Illinois EPA Division of Land Pollution Control files for the Clean Harbors of Chicago, Inc. facility.

Illinois EPA Division of Water Pollution Control files for the Clean Harbors of Chicago, Inc. facility.

Illinois Environmental Protection Agency, 1986, The Southeast Chicago Study: An Assessment of Environmental Pollution and Public Health Impacts, IEPA/ENV/86-008, 14 pages.

Illinois State Water Survey and Illinois State Geological Survey, 1959, Preliminary Report on Groundwater Resources of the Chicago Region, Illinois, Cooperative Groundwater Report 1-S, 18p.

Illinois State Geological Survey, 1975, Handbook of Illinois Stratigraphy, Bulletin 95, 261 pages.

Illinois State Water Survey, well logs from a three mile radius surrounding the Clean Harbors facility.

Metropolitan Water Reclamation District of Greater Chicago, discharge violations from the Clean Harbors facility.

United States Department of Agriculture, Soil Conservation Service, Soil Survey of DuPage and Part of Cook Counties, Illinois, Soil Report #108, 217 pages.

U.S. Geological Survey, 1973 Blue Island, Illinois 7.5 Minute Quadrangle.

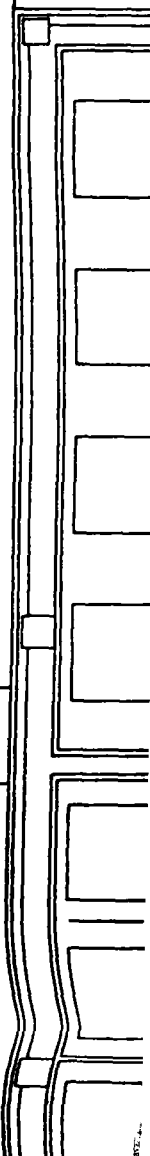
U.S. Geological Survey, 1980 Calumet City, Illinois-Indiana 7.5 Minute Quadrangle.

U.S. Geological Survey, 1973 Lake Calumet, Illinois-Indiana 7.5 Minute Quadrangle.

ATTACHMENT A

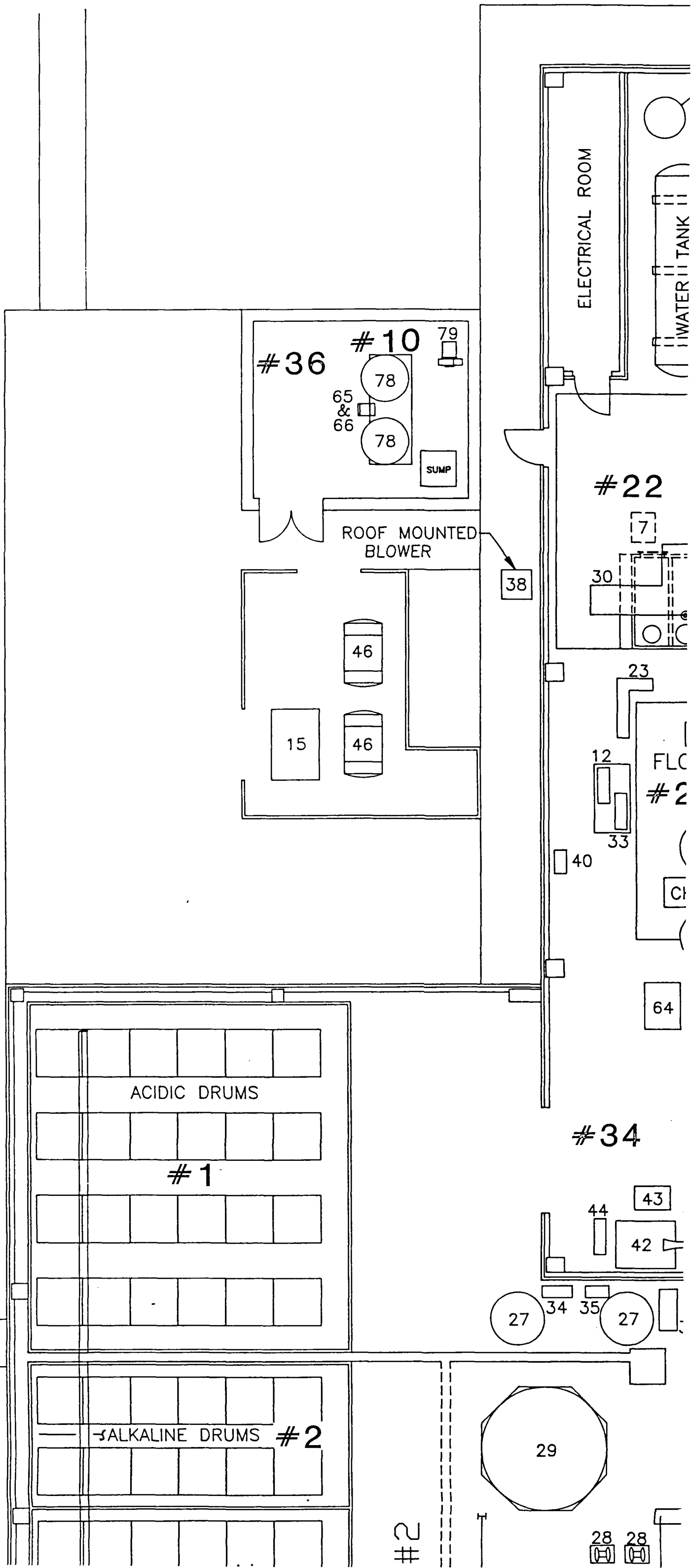
SOLID WASTE MANAGEMENT UNIT LOCATION MAP 1

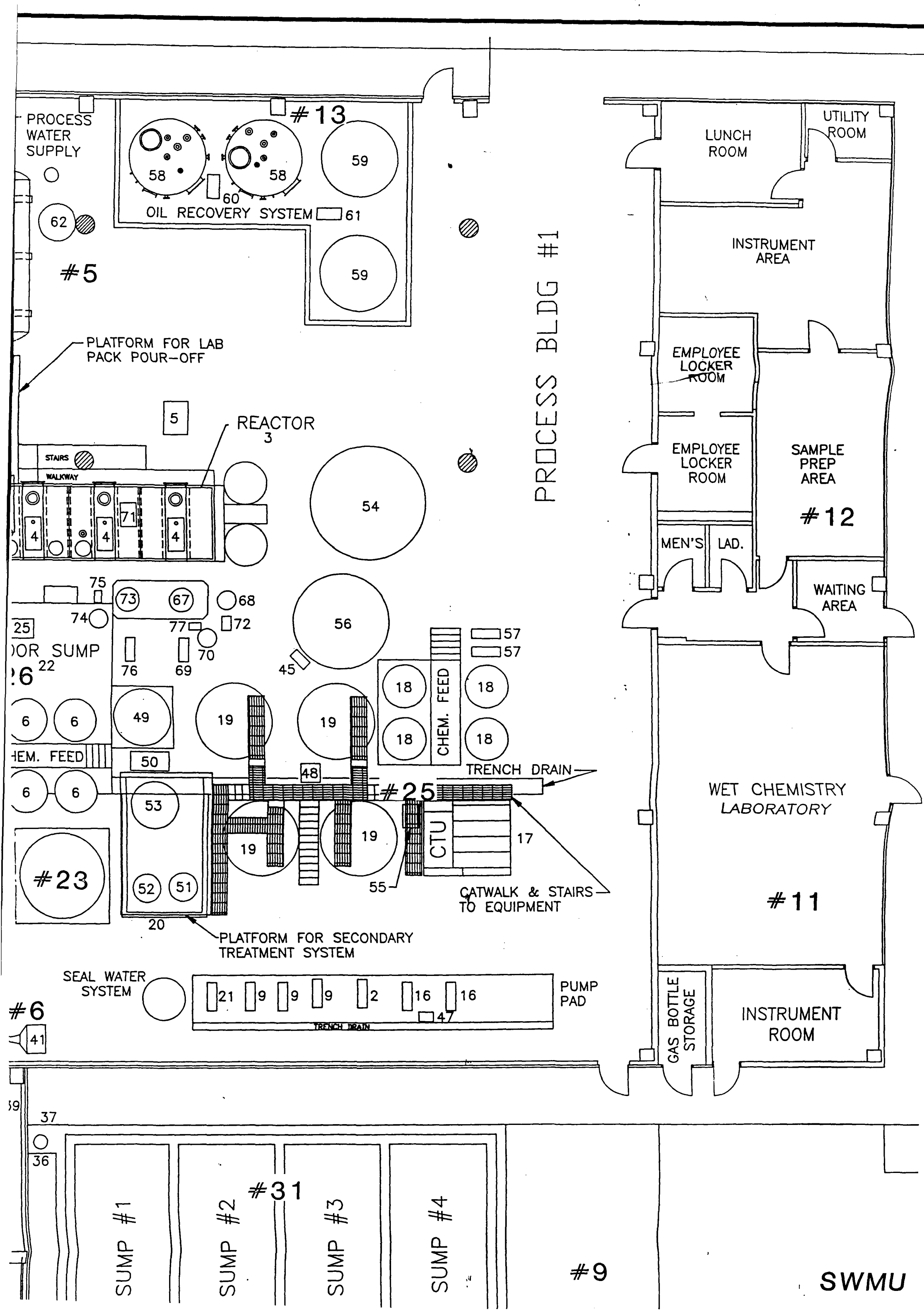
ITEM NO.	QTY.	DESCRIPTION
1	1	7,000 GAL. EPOXY LINED CONCRETE RECEIVING TANKS
2	1	500 GPM RECEIVING PUMP - CRANE DEMING CENTRIFUGAL
3	1	REACTOR VESSEL 3 COMPARTMENTS
4	3	MIXER W/AXIAL FLOW TURBINE
5	1	1 1/2" PORTABLE AIR OPERATOR DIAPHRAGM PUMP
6	1	CHEMICAL STORAGE AND FEED SYSTEM FOR 4 CHEMICALS
7	1	350 GPM RECYCLE & TRANSFER PUMP
8	3	7,000 GAL. EPOXY LINED CONCRETE RECEIVING TANKS
9	3	500 GPM RECEIVING PUMPS
12	1	500 GPM TRANSFER PUMP
15	1	400 CFM @ 60 PSI COMPRESSOR
16	2	150 GPM TREATMENT FEED PUMP
17	1	CHEMICAL TREATMENT UNIT
18	1	CHEMICAL STORAGE AND FEED SYSTEM
19	4	GRAVITATOR (CLARIFIER)
20	1	SECONDARY CLARIFIER - 60 SQ. FT. (TUBE SETTLER)
21	1	200 GPM EFFLUENT TRANSFER PUMP
22	1	13,000 GAL. CONCRETE SLUDGE SUMP
23	1	100 GPM SLUDGE TRANSFER PUMP
25	1	3" SAND PIPER AIR OPERATED DIAPHRAGM PUMP
26	1	120 CU. FT. RECESSED CHAMBER PRESSURE FILTER
27	2	500 GAL. LIME SLURRY TANKS
28	2	FILTER FEED PUMP, AIR DIAPHRAGM
29	1	10,000 GAL. SLUDGE CONDITIONING TANK
30	1	INORGANIC LAB-PACK POURING STATION
33	1	250 GPM DISCHARGE PUMP
34	1	BAG HOUSE
35	1	400 CFM BLOWER
36	1	50 GPM SUMP PUMP
37	1	225 GAL. SPILL COLLECTION SUMP (COMMON FOR 4 RECEIVING PITS)
38	1	3,000 CFM EXHAUST BLOWER
39	1	20 GPM LIME SLURRY FEED PUMP
40	1	ULTRASONIC FLOW METER, INDICATOR AND TOTALIZER
41	1	3" PARSHALL FLUME AND APPROACH BOX
42	1	1,000 GAL. EFFLUENT COLLECTION TANK
43	1	CHICAGO SANITARY DISTRICT FLOW MONITORING STATION
44	1	150 GPM DISCHARGE PUMP
45	1	10 GPM LIQUID CAUSTIC PUMP
46	2	AIR COMPRESSORS
47	1	ULTRASONIC FLOW METER
48	1	FLOW DISTRIBUTION CHAMBER
49	1	5' DIA. x 9' HIGH CLARIFIER COLLECTION TANK
50	1	150 GPM SECONDARY TREATMENT FEED PUMP
51	1	3' DIA. x 6' HIGH 1st SECONDARY TREATMENT MIXING TANK
52	1	3' DIA. x 6' HIGH 2nd SECONDARY TREATMENT MIXING TANK
53	1	5' DIA. x 6' HIGH FLOCCULATOR TANK
54	1	8,000 GAL. LIQUID ALUM STORAGE TANK
55	1	10 GPM ALUM METERING PUMP
56	1	8,000 GAL. LIQUID CAUSTIC STORAGE TANK
57	2	10 GPM CAUSTIC METERING PUMP
58	2	8' DIA. x 16' HIGH 8,000 GAL. REACTOR VESSELS
59	2	8' DIA. x 16' HIGH 6,000 GAL. PRODUCT STORAGE TANKS
60	1	300 GPM RECEIVING/RECIRCULATING PUMP
61	1	100 GPM TRANSFER PUMP
62	1	1.5 MILLION BTU STEAM GENERATOR
63	1	8' DIA. x 14' HIGH 5,000 GAL. WASTE STORAGE TANK
64	1	1 1/2" AIR OPERATED DIAPHRAGM PUMP
65	1	CONDENSER
66	1	WATER SEPARATOR
67	1	SCRUBBER
68	1	OVERFLOW COLLECTION TANK
69	1	40 GPM RECIRCULATING PUMP
70	1	100 GAL. CAUSTIC FEED TANK
71	1	2,000 CFM BLOWER
72	1	OVERFLOW TRANSFER PUMP

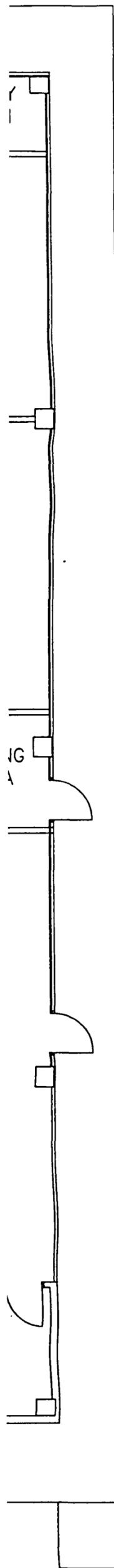




PITS)







Hazardous/Solid Waste Storage Areas

SWMU No. 1 Acid Drum Storage Area
SWMU No. 2 Alkaline Drum Storage Area
SWMU No. 3 Organic Drum Storage Area
SWMU No. 4 Drum Staging Area
SWMU No. 7 Outside Drum Storage Area 1
SWMU No. 8 Former Sludge Storage Pad
SWMU No. 9 Outside Drum Storage Area 2
SWMU No. 14 Former 10,000 Gallon Sludge Feed Tank
SWMU No. 23 Special Waste Storage Tank
SWMU No. 24 Oil Contaminated Soil Storage Area
SWMU No. 26 13,000 Gallon Concrete Sludge Tank
SWMU Nos. 27-30 Hazardous and Solid Waste Storage Tanks
SWMU No. 31 7,000 Gallon Concrete Receiving Tanks
SWMU No. 36 Inside Drum Storage Area

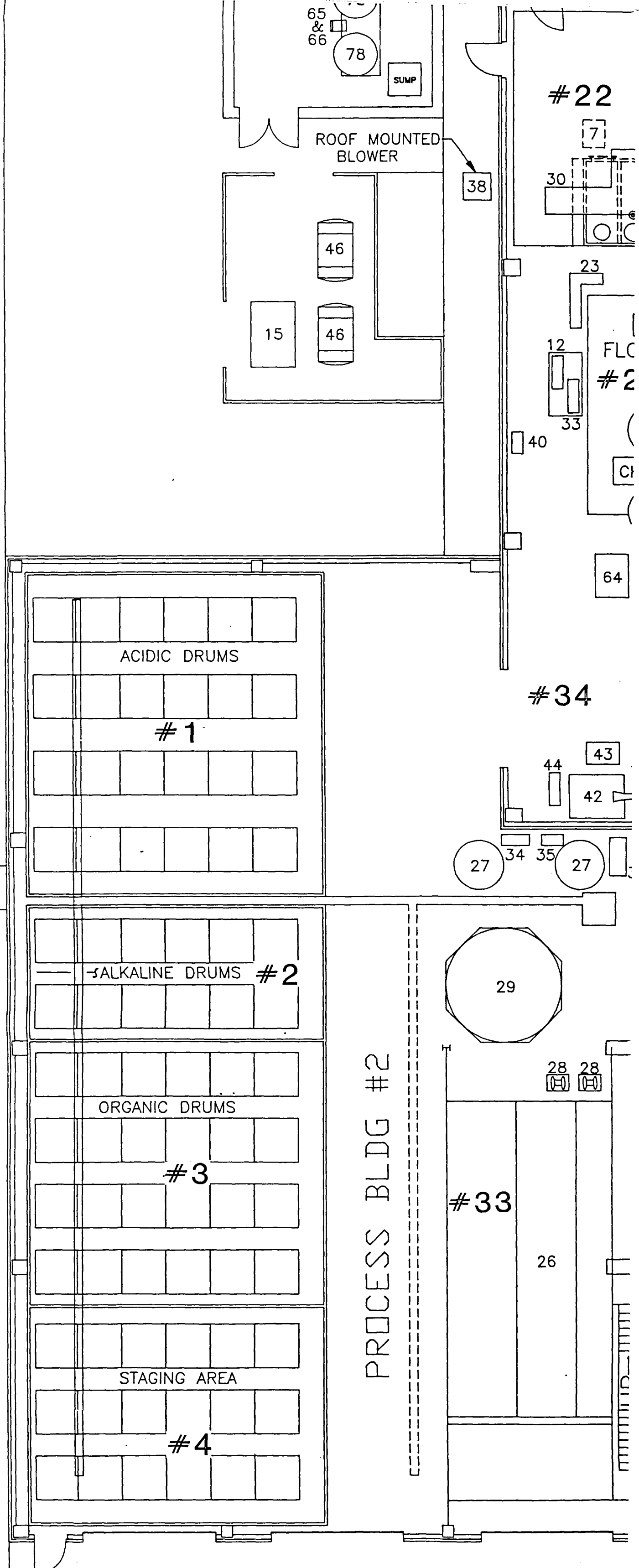
Treatment Units

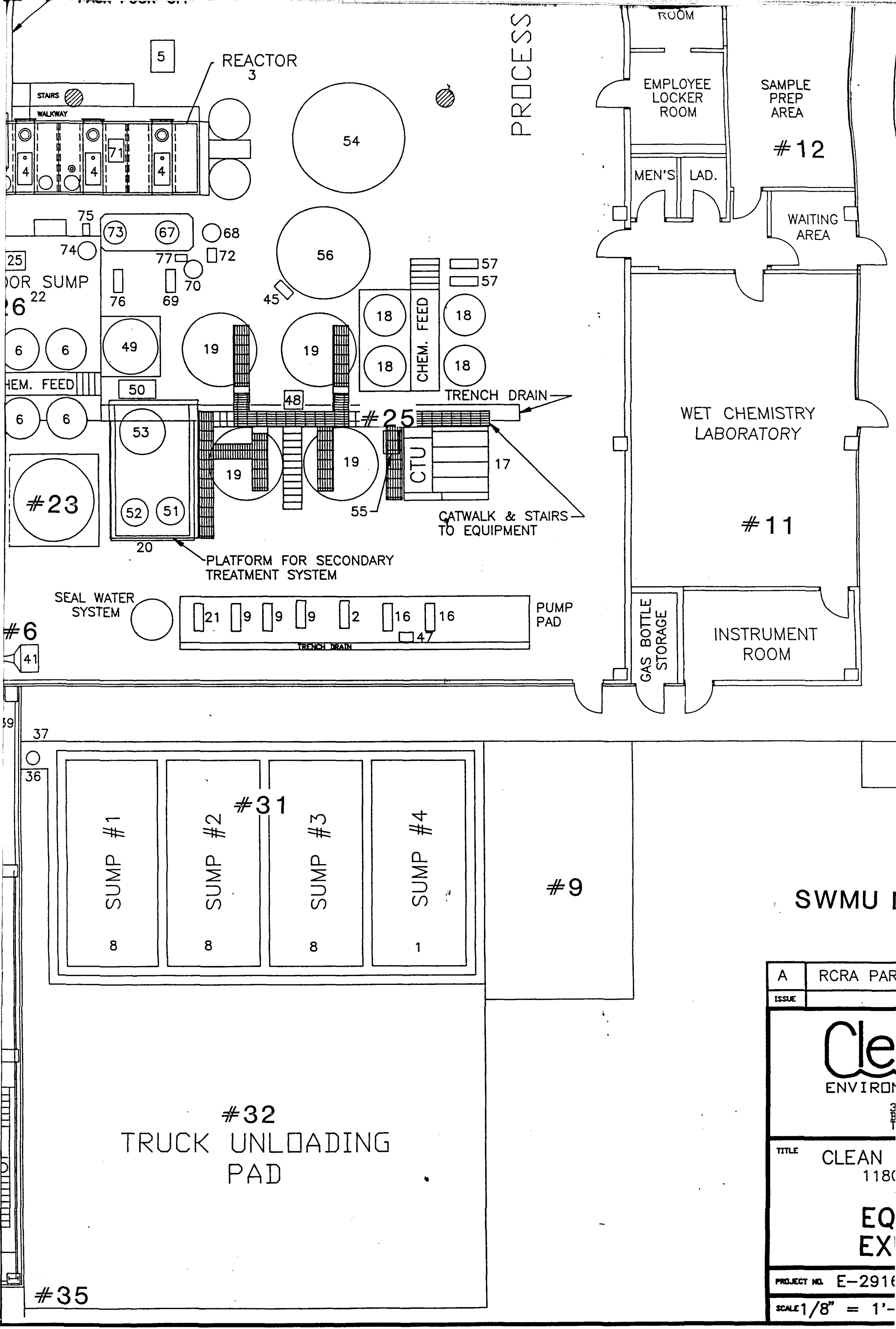
SWMU No. 10 Carbon Absorption System
SWMU No. 13 Oil/Water Separator
SWMU No. 22 Chemical Reduction/Oxidation Pretreatment System
SWMU No. 25 Chemical Treatment Unit
SWMU No. 33 Sludge Dewatering System

Miscellaneous

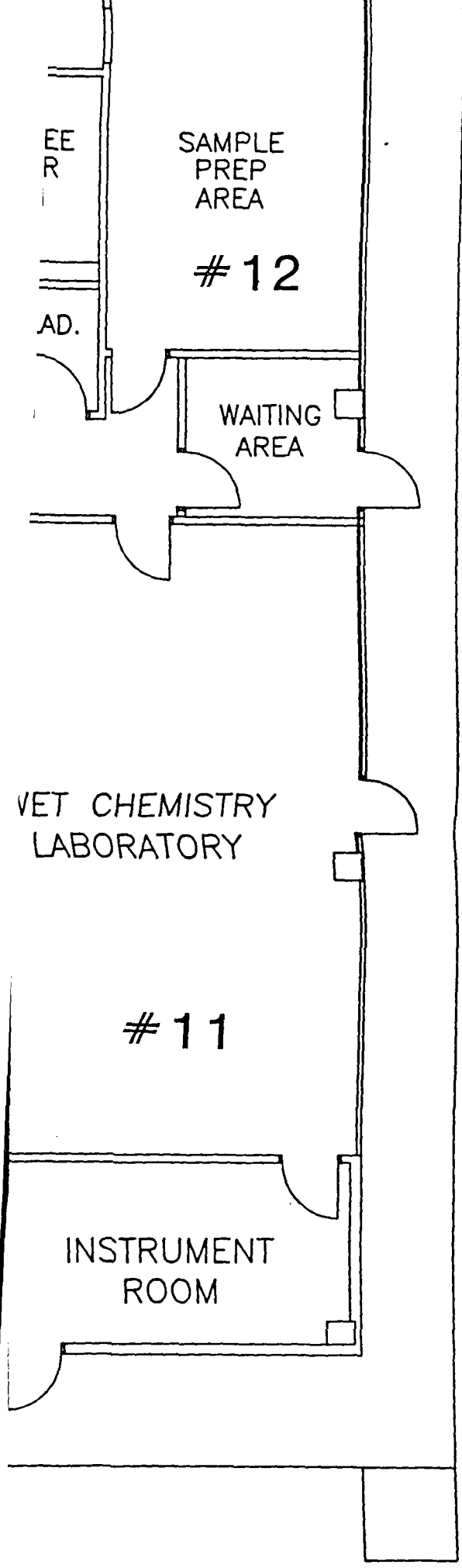
SWMU No. 5 Safety-Kleen Unit
SWMU No. 6 Process Sewer System
SWMU No. 11 Inorganic Laboratory
SWMU No. 12 Organic Laboratory
SWMU No. 15 Auxiliary Basin #3
SWMU No. 16 Landfill
SWMU No. 17 Former Temporary Pickle Liquor Basin
SWMU No. 18 Former Pickle Liquor Disposal Site
SWMU No. 19 Former Permanent Pickle Liquor Basin
SWMU No. 20 Former Oil Basin
SWMU No. 21 Former Lime Basin
SWMU No. 32 Truck Unloading Pad
SWMU No. 34 Former Rotary Filter Press
SWMU No. 35 Mobile Filter Press

21	1	200 GPM EFFLUENT TRANSFER PUMP
22	1	13,000 GAL. CONCRETE SLUDGE SUMP
23	1	100 GPM SLUDGE TRANSFER PUMP
25	1	3" SAND PIPER AIR OPERATED DIAPHRAGM PUMP
26	1	120 CU. FT. RECESSED CHAMBER PRESSURE FILTER
27	2	500 GAL. LIME SLURRY TANKS
28	2	FILTER FEED PUMP, AIR DIAPHRAGM
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30	1	INORGANIC LAB-PACK POURING STATION
33	1	250 GPM DISCHARGE PUMP
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36	1	50 GPM SUMP PUMP
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47	1	ULTRASONIC FLOW METER
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68	1	OVERFLOW COLLECTION TANK
69	1	40 GPM RECIRCULATING PUMP
70	1	100 GAL. CAUSTIC FEED TANK
71	1	2,000 CFM BLOWER
72	1	OVERFLOW TRANSFER PUMP
73	1	SCRUBBER
74	1	OVERFLOW COLLECTION TANK
75	1	20 GPM TRANSFER PUMP
76	1	40 GPM RECIRCULATING PUMP
77	1	2 GPM CAUSTIC FEED PUMP
78	1	2 TON ACTIVATED CARBON SYSTEM
79	1	700 CFM BLOWER





A	RCRA PAR
ISSUE	
Cle ENVIRON	
TITLE	CLEAN 1180
EQ EX	
PROJECT NO.	E-2916
SCALE 1/8" = 1'-	



Hazardous/Solid Waste Storage Areas

- SWMU No. 1 Acid Drum Storage Area
- SWMU No. 2 Alkaline Drum Storage Area
- SWMU No. 3 Organic Drum Storage Area
- SWMU No. 4 Drum Staging Area
- SWMU No. 7 Outside Drum Storage Area 1
- SWMU No. 8 Former Sludge Storage Pad
- SWMU No. 9 Outside Drum Storage Area 2
- SWMU No. 14 Former 10,000 Gallon Sludge Feed Tank
- SWMU No. 23 Special Waste Storage Tank
- SWMU No. 24 Oil Contaminated Soil Storage Area
- SWMU No. 26 13,000 Gallon Concrete Sludge Tank
- SWMU Nos. 27-30 Hazardous and Solid Waste Storage Tanks
- SWMU No. 31 7,000 Gallon Concrete Receiving Tanks
- SWMU No. 36 Inside Drum Storage Area

Treatment Units

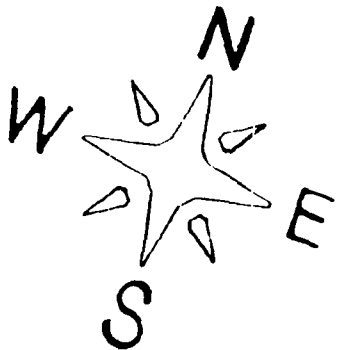
- SWMU No. 10 Carbon Absorption System
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- SWMU No. 22 Chemical Reduction/Oxidation Pretreatment System
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- SWMU No. 33 Sludge Dewatering System

Miscellaneous

- SWMU No. 5 Safety-Kleen Unit
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- SWMU No. 11 Inorganic Laboratory
- SWMU No. 12 Organic Laboratory
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- SWMU No. 16 Landfill
- SWMU No. 17 Former Temporary Pickle Liquor Basin
- SWMU No. 18 Former Pickle Liquor Disposal Site
- SWMU No. 19 Former Permanent Pickle Liquor Basin
- SWMU No. 20 Former Oil Basin
- SWMU No. 21 Former Lime Basin
- SWMU No. 32 Truck Unloading Pad
- SWMU No. 34 Former Rotary Filter Press
- SWMU No. 35 Mobile Filter Press

SWMU LOCATION MAP

A	RCRA PART B SUBMITTAL	<i>X.M.C.</i>	<i>AMK</i>	<i>W.M.K.</i>	9/19/90
ISSUE	DESCRIPTION	DRWN	CHKD	APPR	DATE
<div>CleanHarbors ENVIRONMENTAL ENGINEERING, INC. 325 Wood Road Braintree, Massachusetts 02184 Telephone (617) 849-1200/1800</div>					
<div>TITLE CLEAN HARBORS OF CHICAGO, INC. 11800 S. STONY ISLAND AVENUE CHICAGO, ILLINOIS 60617 EQUIPMENT LAYOUT EXISTING FACILITIES</div>					
PROJECT NO. E-2916		DRAWING NO.			
SCALE 1/8" = 1'-0"		2916-M-02			

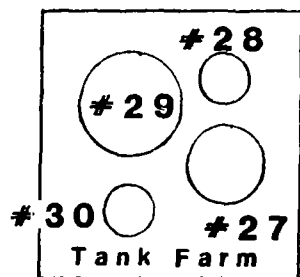


SCA/Chem Waste Management

Slip No. 6

Property Line

Fence



#7

Process
Buildings
#14

#8

Office

Access Road

#24

Property Line

Slip No. 4

EmEs Company

SWMU LOCATION MAP

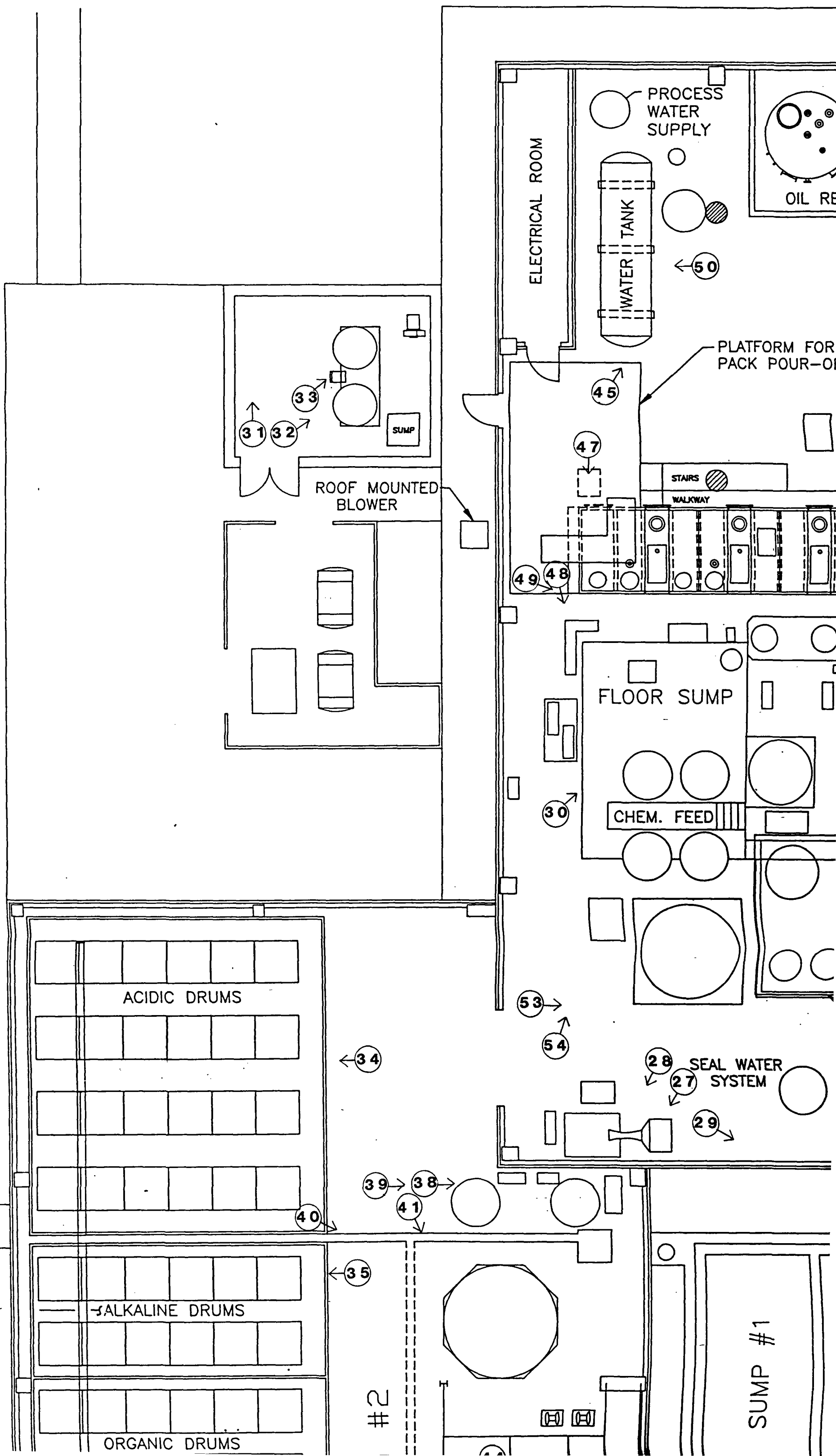
ATTACHMENT B

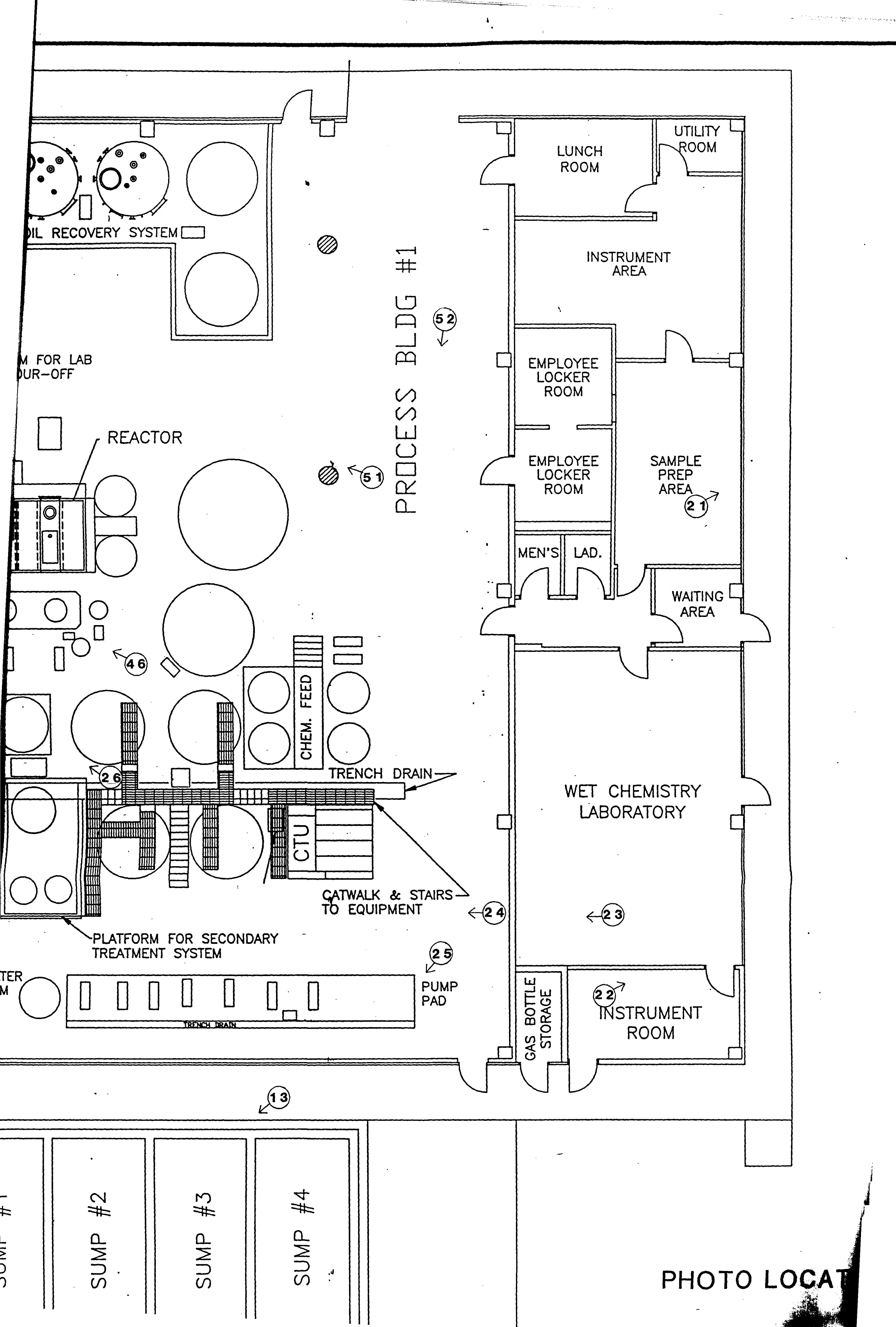
SOLID WASTE MANAGEMENT UNIT LOCATION MAP 2



SOURCE: IDOT, 1975.

SWMU MAP





OIL RECOVERY SYSTEM

M FOR LAB
OUR-OFF

REACTOR

PROCESS BLDG #1

LUNCH ROOM

UTILITY ROOM

INSTRUMENT AREA

EMPLOYEE LOCKER ROOM

EMPLOYEE LOCKER ROOM

SAMPLE PREP AREA

MEN'S LAD.

WAITING AREA

WET CHEMISTRY LABORATORY

INSTRUMENT ROOM

GAS BOTTLE STORAGE

TRENCH DRAIN

CATWALK & STAIRS TO EQUIPMENT

PLATFORM FOR SECONDARY TREATMENT SYSTEM

PUMP PAD

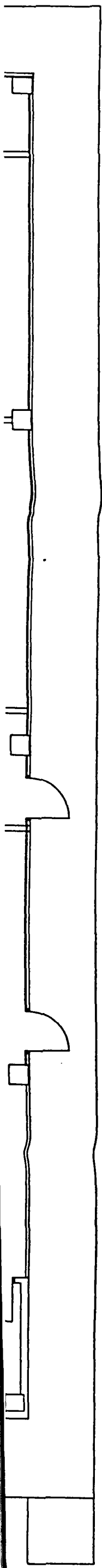
TRENCH DRAIN

SUMP #2

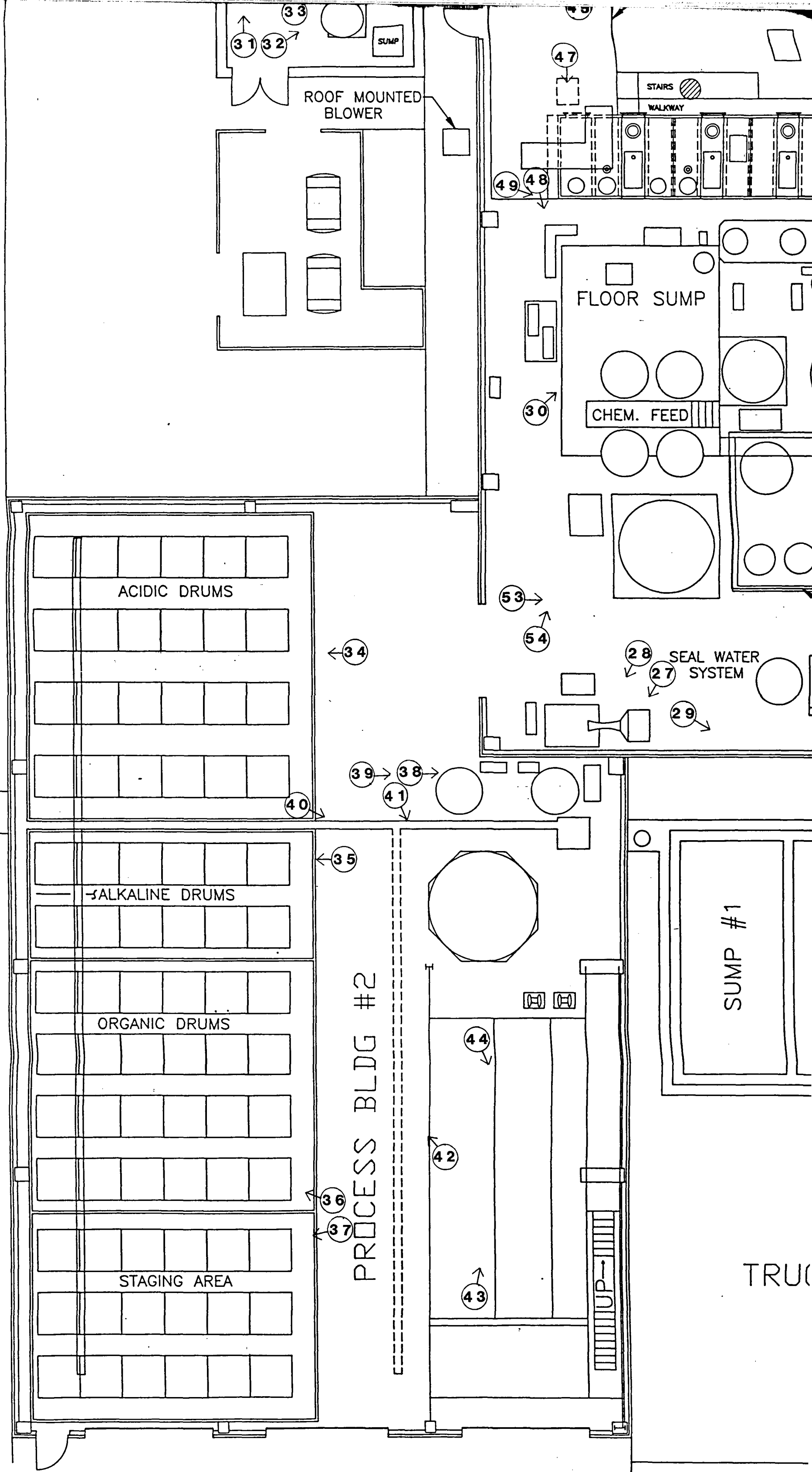
SUMP #3

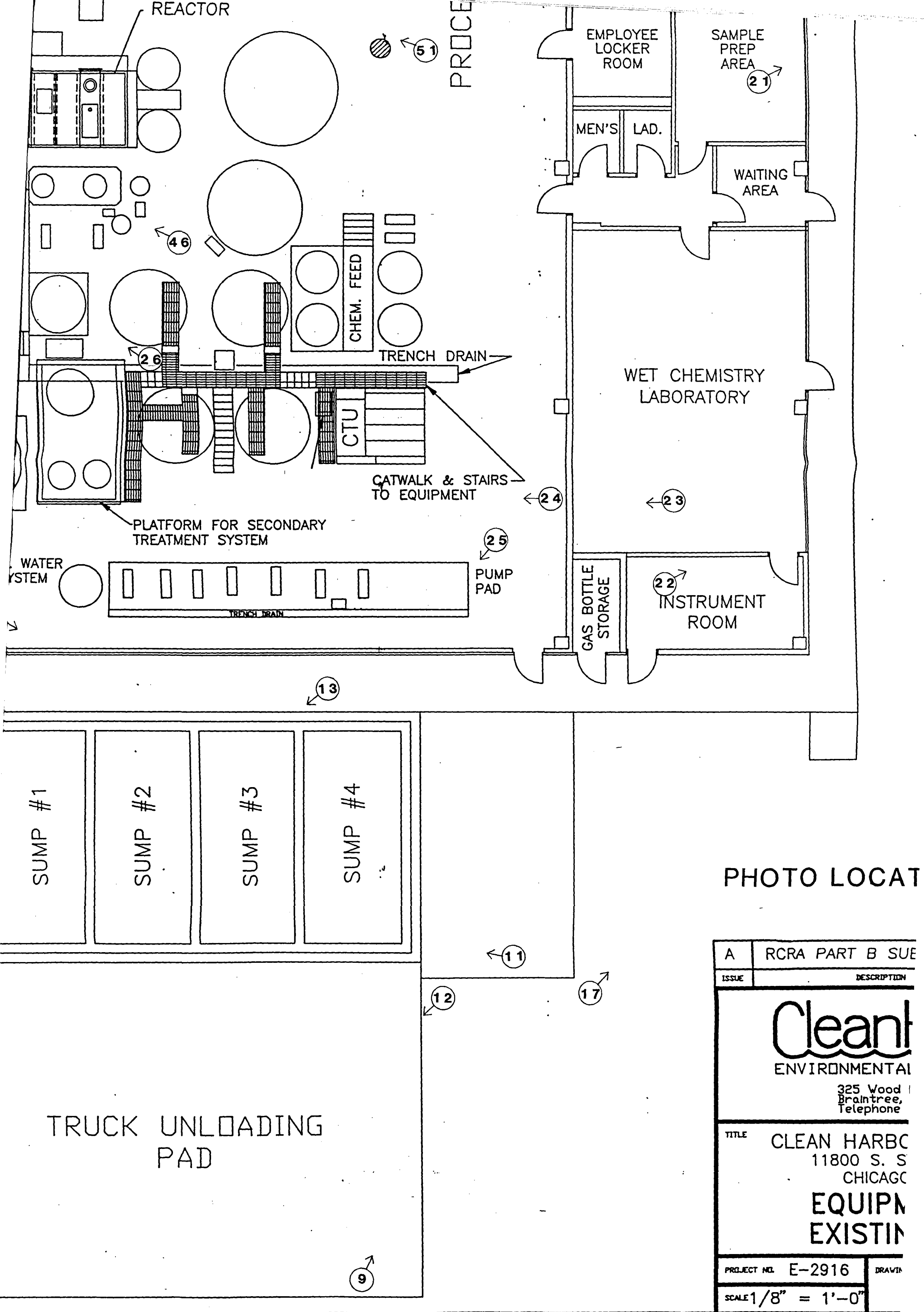
SUMP #4

PHOTO LOCAT



TO LOCATION MAP





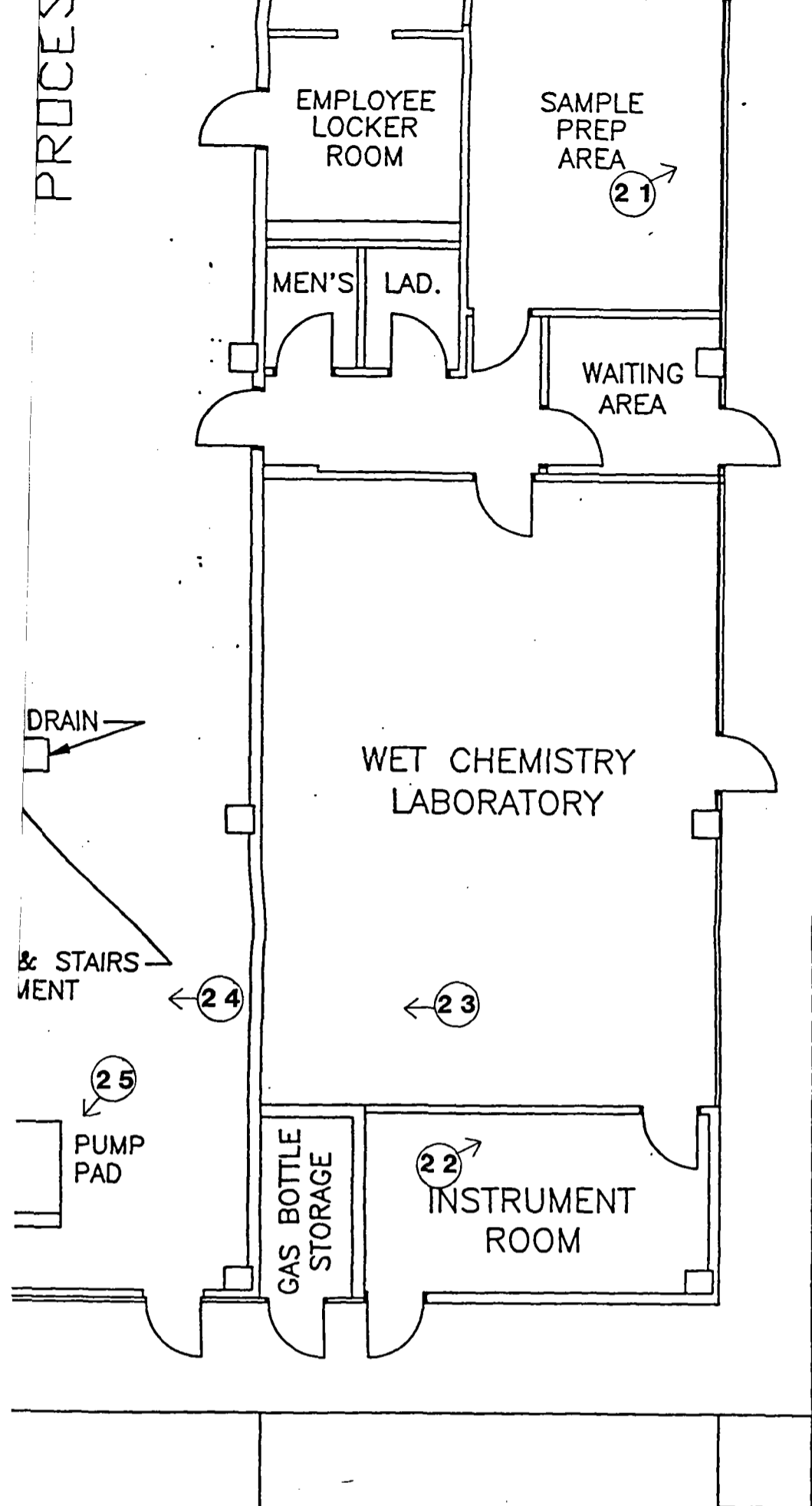
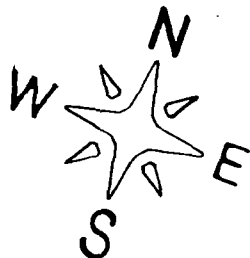


PHOTO LOCATION MAP

A	RCRA PART B SUBMITTAL	<i>H.N.C.</i>	<i>W.M.E.</i>	<i>W.M.E.</i>	9/19/90
ISSUE	DESCRIPTION	DRWN	CHKD	APPR	DATE
<p>CleanHarbors ENVIRONMENTAL ENGINEERING, INC. 325 Wood Road Braintree, Massachusetts 02184 Telephone (617) 849-1200/1800</p>					
<p>TITLE CLEAN HARBORS OF CHICAGO, INC. 11800 S. STONY ISLAND AVENUE CHICAGO, ILLINOIS 60617 EQUIPMENT LAYOUT EXISTING FACILITIES</p>					
PROJECT NO. E-2916		DRAWING NO. 2916-M-02			
SCALE 1/8" = 1'-0"					

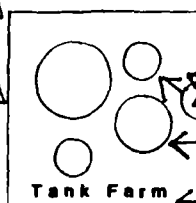


SCA/Chem Waste Management

Slip No. 6

Property Line

Fence



Process Buildings

Office

Access Road

Property Line

Slip No. 4

EmEs Company

Photo Location Map

ATTACHMENT C

VSI PHOTOGRAPH LOCATIONS MAP

DATE: December 19, 1990

TIME: 11:48 AM

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 1

LOCATION: 20316000051 -- Cook County

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the west on the north side of

Process Building #1. Old Drum

Storage Area #1 (SWMU #7)



DATE: December 19, 1990

TIME: 11:52 AM

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 2

LOCATION: 20316000051 -- Cook County

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the west southwest at tank #1

(SWMU #27) in foreground and

tank #3 (SWMU #29) in

background.



DATE: December 19, 1990

TIME: 11:52 am

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 3

LOCATION: 40316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the west at tank #1

(Swmu #27)



DATE: December 19, 1990

TIME: 11:54 am

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 4

LOCATION: 40316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the west at tank #2 (SWMU #28)

with Tank #1 (SWMU #27) on the

left and Tank #4 (SWMU #30) in

the background.



DATE: December 19, 1990

TIME: 11:54 am

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 5

LOCATION: LO316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the west at tank #2 (SWMU#28)
with tank #1 (SWMU#27) on the
left and Tank #4 (SWMU#30) in
the background.



DATE: December 19, 1990

TIME: 11:56 am

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 6

LOCATION: LO316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the east southeast at tank #4
(SWMU#30) with tank #2 (SWMU#28)
on the left and tank #3 (SWMU#29)
on the right.



DATE: December 19, 1990

TIME: 11:57 am

PHOTOGRAPH TAKEN BY:

Judy Tiziller

PHOTO NUMBER: 7

LOCATION: 20316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the southeast at tank #3 (SWMU
29) with tank #4 (SWMU#30)
on the left.



DATE: December 19, 1990

TIME: 12:02 pm

PHOTOGRAPH TAKEN BY:

Judy Tiziller

PHOTO NUMBER: 8

LOCATION: 20316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the northwest at the mobile
filter press (SWMU#35), with
the concrete receiving tanks (SWMU
31) and unloading pod (SWMU#32) on right.



DATE: December 19, 1990

TIME: 12:07 pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 9

LOCATION: LO316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the north at the concrete receiving
tanks (SWMU #31) and unloading pad
(SWMU #32) on the left, with outside

drum storage area (SWMU #9) on the pad
right of the receiving tanks.



DATE: December 19, 1990

TIME: 12:09 pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 10

LOCATION: LO316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the southeast at the area used
to store oil contaminated soil
in 20 cubic yard roll-off
boxes (SWMU #24)



DATE: December 19, 1990

TIME: 12:11pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 11

LOCATION: LO316000051 -- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the west southwest at the

concrete receiving tanks (SWMU#31)

Process building #1 is on the right and

Process building #2 is on the left.



DATE: December 19, 1990

TIME: 12:11pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 12

LOCATION: LO316000051 -- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the south southwest at the

truck unloading pad (SWMU#32)

with the mobile filter press in

background (SWMU#35)



DATE: December 19, 1990

TIME: 12:15 pm

PHOTOGRAPH TAKEN BY:

Judy Tizler

PHOTO NUMBER: 13

LOCATION: 20316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the southwest at the concrete

receiving tanks (Swmu# 31)

with Process Building #2 in the

background.



DATE: December 19, 1990

TIME: 12:22 pm

PHOTOGRAPH TAKEN BY:

Judy Tizler

PHOTO NUMBER: 14

LOCATION: 20316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the east southeast at the

southeast corner of the facility.



DATE: December 19, 1990

TIME: 12:22 pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 15

LOCATION: 20316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the east at the east side of

the facility and where the

Former Pickle Liquor Disposal site (SWMU#18)

and former Permanent Pickle Liquor Basin (SWMU#19)



DATE: December 19, 1990

TIME: 12:22 pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 16

LOCATION: 20316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

east northeast at the east part of the

facility and office trailer. Area where

the former permanent pickle liquor (SWMU

#1) and former oil basin (SWMU#20)



DATE: December 19, 1990

TIME: 12:22 pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 17

LOCATION: 40316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the north northeast at the office
building and area where the
former oil basin (SWMU #20) and
former lime basin (SWMU #21) were located.



DATE: December 19, 1990

TIME: 1:40 pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 18

LOCATION: 40316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the east northeast at the
west part of the facility and
location of the Auxiliary Basin #3
(SWMU #15)



DATE: December 19, 1990

TIME: 1:46 pm

PHOTOGRAPH TAKEN BY:

Judy Tziller

PHOTO NUMBER: 19

LOCATION: 20316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD000608471

COMMENTS: PICTURE TAKEN TOWARD

east northeast at the west end

of the facility in an area

of the old landfill (SWMU #16)



DATE: December 19, 1990

TIME: 1:46 pm

PHOTOGRAPH TAKEN BY:

Judy Tziller

PHOTO NUMBER: 20

LOCATION: 20316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD000608471

COMMENTS: PICTURE TAKEN TOWARD

west northwest at the end

of the pier and in the area

of the old landfill (SWMU #16)



DATE: December 19, 1990

TIME: 1:59 pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 21

LOCATION: LO316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the north at the fume hood in

the Organic Laboratory (Swmu#

12)



DATE: December 19, 1990

TIME: 2:12 pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 22

LOCATION: LO316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the north at a container used

to collect waste material in

the Organic Laboratory (Swmu#11)



DATE: December 19, 1990

TIME: 2:14pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 23

LOCATION: 40316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the west southwest at a 5

shelf cabinet used to

store incoming wastes in the

Inorganic Laboratory (SWMU #11)



DATE: December 19, 1990

TIME: 2:26 pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 24

LOCATION: 40316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the west at a part of the

chemical treatment unit

(SWMU #25)



DATE: December 19, 1990

TIME: 2:26 pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 25

LOCATION: 40316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the southwest at the pumps

used to pump material from

the concrete receiving tanks

(SWMU #31)



DATE: December 19, 1990

TIME: 2:31 pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 26

LOCATION: 40316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the west at some of the

tanks used in the chemical

treatment unit (SWMU #25)



DATE: December 19, 1990

TIME: 2:37 pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 27

LOCATION: 40316000051 -- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the south at the process

sewer system (Swmu #6) and

the sampling box used to

monitor the discharge



DATE: December 19, 1990

TIME: 2:37 pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 28

LOCATION: 40316000051 -- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the south southwest at the

process sewer system

(Swmu #6)



DATE: December 19, 1990

TIME: 2:38 pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 29

LOCATION: 40316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the southeast at one of the

portable drum pumping

stations



DATE: December 19, 1990

TIME: 2:42 pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 30

LOCATION: 40316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the north at the 13,000

gallon in-ground concrete

sludge tank (SWMU #26)



DATE: December 19, 1990

TIME: 2:48 pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 31

LOCATION: 40316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the north at the drum storage

area (SWMU #36) inside the

building containing the carbon

Absorption system (SWMU #10)



DATE: December 19, 1990

TIME: 2:48 pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 32

LOCATION: 40316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the north northeast at the

Carbon Absorption system

(SWMU #10)



DATE: December 19, 1990

TIME: 2:48pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 33

LOCATION: 20316000051 - Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the north northeast at the

Carbon Absorption System

(Sumu #10)



DATE: December 19, 1990

TIME: 3:01pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 34

LOCATION: 20316000051 - Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the west northwest at the

Acid drum storage area

(Sumu #1)



DATE: December 19, 1990

TIME: 3:02 pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 35

LOCATION: 40316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the west northwest at the

alkaline drum storage area

(Summu #2)



DATE: December 19, 1990

TIME: 3:03 pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 36

LOCATION: 40316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

west northwest at the

organic drum storage area

(Summu #3)



DATE: December 19, 1990

TIME: 3:03pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 37

LOCATION: 40316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the west at the drum

staging Area (Swmu #4)



DATE: December 19, 1990

TIME: 3:12pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 38

LOCATION: 40316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the east at the lime slurry

tanks associated with the

sludge dewatering system

(Swmu #33)



DATE: December 19, 1990

TIME: 3:12 pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 39

LOCATION: 40316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the east at the lime slurry
tanks associated with the
sludge dewatering system
(SWMU #33)



DATE: December 19, 1990

TIME: 3:13 pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 40

LOCATION: 40316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the southeast at a 10,000
gallon sludge conditioning tank
associated with the sludge
dewatering system (SWMU #33)



DATE: December 19, 1990

TIME: 3:13 pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 41

LOCATION: 20316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the southeast at the 10,000 gallon
sludge conditioning tank and the
filter press used in the sludge
dewatering system (SWMU #33)



DATE: December 19, 1990

TIME: 3:19 pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 42

LOCATION: 20316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the northwest at the acid,
alkaline and organic drum
storage areas (SWMU #1, #2 and
#3).



DATE: December 19, 1990

TIME: 3:20 pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 43

LOCATION: 20316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the north at the filter press

associated with the sludge

dewatering system. (SWMU #33)



DATE: December 19, 1990

TIME: 3:22 pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 44

LOCATION: 20316000051-- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the southeast at the filter

press associated with the sludge

dewatering system (SWMU #33)



DATE: December 19, 1990

TIME: 3:34pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 45

LOCATION: LO316000051-- Cooke.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the north at the tanks

associated with the

oil/water separator system.

(SWMU #13)



DATE: December 19, 1990

TIME: 3:37pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 46

LOCATION: LO316000051-- Cooke.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the northwest at the two

scrubbers associated with the

Pretreatment system (SWMU #22)



DATE: December 19, 1990

TIME: 3:38 pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 47

LOCATION: 40316000051--Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

South southeast at the Lab
pack pump-off station associated
with the chemical pretreatment
system (SWMU #22)



DATE: December 19, 1990

TIME: 3:38 pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 48

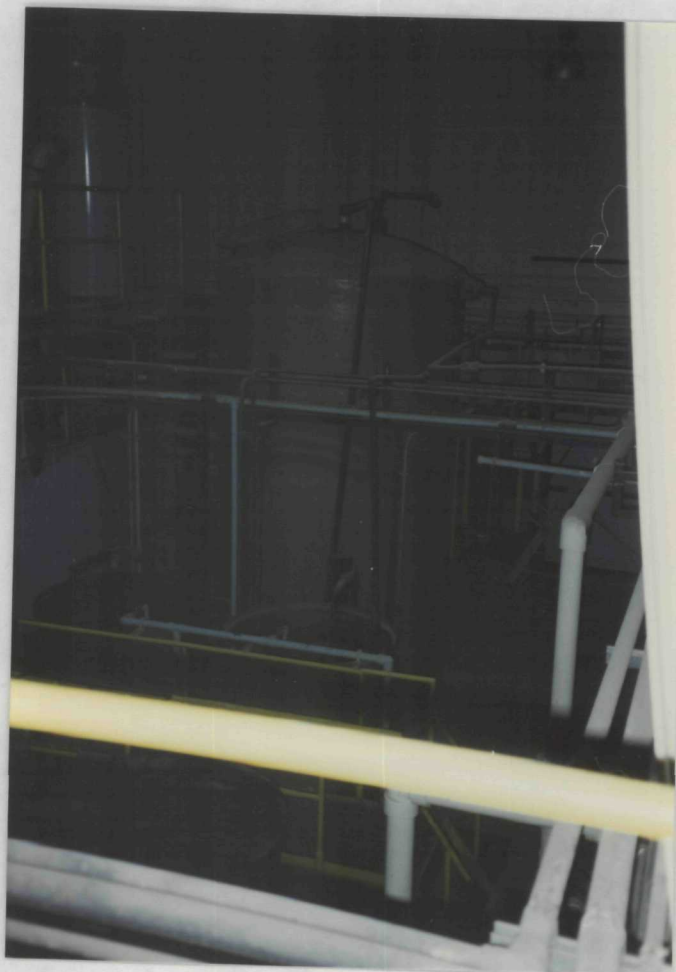
LOCATION: 40316000051--Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the south southeast at the
special waste storage tank.
(SWMU #23) (the large brown
tank)



DATE: December 19, 1990

TIME: 3:44 pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 49

LOCATION: LO316000051 -- Cockle.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

east southeast at the tanks

associated with the

chemical treatment unit.

(SWMU #25)



DATE: December 19, 1990

TIME: 3:47 pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 50

LOCATION: LO316000051 -- Cockle.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the west at the Safety-Kleen

Unit. (SWMU #5)



DATE: December 19, 1990

TIME: 3:54 pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 51

LOCATION: 10316000051--Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the west at an old location for

the sludge feed tank (swmu#14)

with the oil/water separator tanks

(swmu#13) on the right.



DATE: December 19, 1990

TIME: 3:55 pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 52

LOCATION: 10316000051--Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the south at some of the tanks

associated with the chemical

treatment unit (swmu#25)



DATE: December 19, 1990

TIME: 3:58 pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 53

LOCATION: 20316000051 -- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the east at some of the tanks
associated with the pretreatment
system. (SWMU #22)



DATE: December 19, 1990

TIME: 3:59 pm

PHOTOGRAPH TAKEN BY:

Judy Triller

PHOTO NUMBER: 54

LOCATION: 20316000051 -- Cook Co.

Clean Harbors of Chicago, Inc.

ILD 000608471

COMMENTS: PICTURE TAKEN TOWARD

the north at the 13,000 gallon
in ground sludge tank (SWMU #26)
and the special waste storage
tank (SWMU #23) on the right.



ATTACHMENT D

ANALYTICAL DATA FROM BOREHOLES AND MONITOR WELLS



ENVIRONMENTAL SERVICES COMPANIES
11800 S. STONY ISLAND AVENUE
CHICAGO, IL 60617
(312) 646-6202

August 23, 1990

Mr. Mark Schollenberger
Permit Section
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
Division of Land Pollution Control
2200 Churchill Road
P.O. Box 19276
Springfield, Illinois 62794-9276

Dear Mr. Schollenberger:

Enclosed are the lab analysis reports for the outside storage area which you requested. Several analyses are not completed but will be faxed to your attention on Friday, August 24, 1990.

Should you have any questions, please feel free contact me at 312/646-6202.

Sincerely,

CLEAN HARBORS OF CHICAGO, INC.

James R. Laubsted
James R. Laubsted
General Manager

Enclosure

JRL/mk

RECEIVED

AUG 24 1990

IEPA-DLPC



Client: Clean Harbors of Chicago
Sample I.D.: Boring 1 Sample 1
Sample Type: Soil

CHAS Lab #: 90X08069-01M
Date Received: 08/09/90

Parameter	MDL*	Result*	Digestion Date	Analysis Date	Method Number and Reference
Arsenic - Total	27	ND	08/13/90	08/14/90	3050/6010(c)
Cadmium - Total	1.99	ND	08/13/90	08/14/90	3050/6010(c)
Chromium - Total	2.66	315	08/13/90	08/14/90	3050/6010(c)
Lead - Total	33	400	08/13/90	08/14/90	3050/6010(c)
Mercury- Total	0.0654	0.0654	08/14/90	08/15/90	7470(c)
Selenium - Total	40	ND	08/13/90	08/14/90	3050/6010(c)
Silver- Total	1.6	ND	08/13/90	08/14/90	3005/6010(c)

Notes: ND - Below minimum detectable level (MDL)
* = mg/kg
Soil/Solid samples based on sample dry weight.

RECEIVED

AUG 24 1990

IEPA-DLPC



Client: Clean Harbors of Chicago
Sample ID: BORING #1, SAMPLE 1
Sample Type: Soil

CHAS Lab #: 90X08069-01M
Date Received: 08/09/90
Internal Code: SS90

Semi-Volatile Base/Neutral and Acid Extractable Organic
by EPA Method 8270 (ref. c) - System C
Extraction Date: 08/10/90
Analysis Date: 08/17/90

Base/Neutral Compounds	MDL*	Conc.*	Base/Neutral Compounds	MDL*	Conc.*
bis(2-Chloroethyl)Ether	1.7	ND	Di-n-Butylphthalate	1.7	ND
1,3-Dichlorobenzene	1.7	ND	Fluoranthene-----	1.7	2.8
1,4-Dichlorobenzene	1.7	ND	Pyrene-----	1.7	2.1
1,2-Dichlorobenzene	1.7	ND	Butylbenzylphthalate	1.7	ND
bis(2-Chloroisopropyl)Ether	1.7	ND	3,3'-Dichlorobenzidine	3.3	ND
N-Nitroso-Di-n-Propylamine	1.7	ND	Benzo(a)Anthracene	1.7	ND
Hexachloroethane	1.7	ND	bis(2-Ethylhexyl)Phthalate	3.3	ND
Nitrobenzene	1.7	ND	Chrysene	1.7	ND
Isophorone	1.7	ND	Di-n-Octylphthalate	1.7	ND
bis(2-Chloroethoxy)Methane	1.7	ND	Benzo(b)Fluoranthene-----	1.7	TR
1,2,4-Trichlorobenzene	1.7	ND	Benzo(k)Fluoranthene	1.7	ND
Naphthalene	1.7	ND	Benzo(a)Pyrene	1.7	ND
4-Chloroaniline	1.7	ND	Indeno(1,2,3-cd)Pyrene	1.7	ND
Hexachlorobutadiene	1.7	ND	Dibenz(a,h)Anthracene	1.7	ND
2-Methylnaphthalene	1.7	ND	Benzo(g,h,i)Perylene	1.7	ND
Hexachlorocyclopentadiene	1.7	ND			
2-Chloronaphthalene	1.7	ND			
2-Nitroaniline	8.3	ND	Acid Compounds	MDL*	Conc.*
Dimethyl Phthalate	1.7	ND	Phenol	1.7	ND
Acenaphthylene	1.7	ND	2-Chlorophenol	1.7	ND
3-Nitroaniline	8.3	ND	2-Methylphenol	1.7	ND
Acenaphthene	1.7	ND	4-Methylphenol	1.7	ND
Dibenzofuran	1.7	ND	2-Nitrophenol	1.7	ND
2,4-Dinitrotoluene	1.7	ND	2,4-Dimethylphenol	1.7	ND
2,6-Dinitrotoluene	1.7	ND	2,4-Dichlorophenol	1.7	ND
Diethylphthalate	1.7	ND	4-Chloro-3-methylphenol	1.7	ND
4-Chlorophenyl-phenylether	1.7	ND	2,4,6-Trichlorophenol	8.3	ND
Fluorene	1.7	ND	2,4,5-Trichlorophenol	8.3	ND
4-Nitroaniline	8.3	ND	2,4-Dinitrophenol	8.3	ND
N-Nitrosodiphenylamine	1.7	ND	4-Nitrophenol	8.3	ND
4-Bromophenyl-phenylether	1.7	ND	4,6-Dinitro-2-methylphenol	8.3	ND
Hexachlorobenzene	1.7	ND	Pentachlorophenol	8.3	ND
Phenanthrene-----	1.7	TR			
Anthracene	1.7	ND			

QA/QC Surrogate	Rec.	Range CLP
2-Fluorophenol	82%	25 - 121%
Phenol-D5	95%	24 - 113%
Nitrobenzene-D5	84%	23 - 120%
2-Fluorobiphenyl	96%	25 - 121%
2,4,6-Tribromophenol	39%	19 - 122%
Terphenyl-D14	81%	18 - 137%

Notes: ND = Below minimum detectable level (MDL)
* = mg/kg based on sample weight as received
TR = Trace amount present but below MDL

RECEIVED

AUG 24 1990

IEPA-DLPC

Client: Clean Harbors of Chicago
Sample I.D.: Boring 1 Sample 1
Sample Type: Soil

CHAS Lab #: 90X08069-0
Date Received: 08/09/
Internal Code: VS70

Volatile Organics - System A
by EPA Method 8240 (ref. c)

Analysis Date: 08/10/90

Parameter	MDL*	Conc.*	Parameter	MDL*	Conc.
Priority Pollutant Compounds:			1,1,2,2-Tetrachloroethane	0.005	ND
Chloromethane	0.010	ND	Tetrachloroethene	0.005	ND
Bromomethane	0.010	ND	Toluene	0.005	ND
Vinyl Chloride	0.010	ND	Chlorobenzene	0.005	ND
Chloroethane	0.010	ND	Ethylbenzene	0.005	ND
Methylene Chloride	0.005	ND	Hazardous Substance List Compounds:		
Trichlorofluoromethane	0.005	ND	Acetone	0.020	0.022
1,1-Dichloroethene	0.005	ND	Carbon Disulfide	0.010	ND
1,1-Dichloroethane	0.005	ND	2-Butanone	0.020	ND
trans-1,2-Dichloroethene	0.005	ND	Vinyl Acetate	0.005	NT
Chloroform	0.005	ND	4-Methyl-2-Pentanone	0.005	NL
1,2-Dichloroethane	0.005	ND	2-Hexanone	0.005	ND
1,1,1-Trichloroethane	0.005	ND	Styrene	0.005	ND
Carbon Tetrachloride	0.005	ND	Total Xylenes	0.005	ND
Bromodichloromethane	0.005	ND	Additional Compounds:		
1,2-Dichloropropane	0.005	ND	Dibromoethane (EDB)	0.005	NT
cis-1,3-Dichloropropene	0.005	ND	Methyl-t-Butylether	0.010	ND
Trichloroethene	0.005	ND	1,2-Dichlorobenzene	0.005	ND
Benzene	0.005	ND	1,3-Dichlorobenzene	0.005	ND
Dibromochloromethane	0.005	ND	1,4-Dichlorobenzene	0.005	ND
1,1,2-Trichloroethane	0.005	ND	Acrolein	0.010	ND
trans-1,3-Dichloropropene	0.005	ND	Acrylonitrile	0.010	ND
2-Chloroethylvinylether	0.010	ND			
Bromoform	0.005	ND			

Notes ND - Below minimum detectable level (MDL)
TR - Trace amount present but below MDL
* - mg/kg
Based on sample weight as received.
No additional peaks observed in sample

QA/QC Surrogate Recoveries:

d4-1,2-Dichloroethane: 92 %
d8-Toluene: 100 %
p-BFB: 100 %

Surrogate Acceptance Criteria:

Water	Soil
76-114%	70-121%
88-110%	84-138%
86-115%	59-113%



Client: Clean Harbors of Chicago
Sample ID: BORING #1 8/7 SAMPLE #2

CHAS Lab #: 90X08069-02AB
Date Received: 08/09/90

TENTATIVELY IDENTIFIED COMPOUNDS

<u>CAS Number</u>	<u>Compound</u>	<u>Fraction</u>	<u>Estimated Concentration*</u>
121-44-8	N,N-Diethyl-Ethanamine	VOA	0.027
5441-51-0	4-ethyl-Cyclohexanone	VOA	0.009

Notes:

* - mg/kg



Client: Clean Harbors of Chicago
Sample I.D.: Boring 1 Sample 3
Sample Type: Soil

CHAS Lab #: 90X08069-03M
Date Received: 08/09/90

Parameter	MDL*	Result*	Digestion Date	Analysis Date	Method Number and Reference
Arsenic - Total	36	ND	08/13/90	08/14/90	3050/6010(c)
Cadmium - Total	2.67	ND	08/13/90	08/14/90	3050/6010(c)
Chromium - Total	3.55	323	08/13/90	08/14/90	3050/6010(c)
Lead - Total	44	160	08/13/90	08/14/90	3050/6010(c)
Mercury- Total	0.0812	ND	08/14/90	08/15/90	7470(c)
Selenium - Total	53	ND	08/13/90	08/14/90	3050/6010(c)
Silver- Total	2.0	ND	08/13/90	08/14/90	3005/6010(c)

Notes: ND - Below minimum detectable level (MDL)
* = mg/kg
Soil/Solid samples based on sample dry weight.



Client: Clean Harbors of Chicago
Sample I.D.: Boring 1 Sample 3
Sample Type: Soil

CHAS Lab #: 90X08069-03AB
Date Received: 08/09/90
Internal Code: VS70

Volatile Organics - System A
by EPA Method 8240 (ref. c)

Analysis Date: 08/13/90

Parameter	MDL*	Conc.*	Parameter	MDL*	Conc.*
Priority Pollutant Compounds:			1,1,2,2-Tetrachloroethane	0.025	ND
Chloromethane	0.050	ND	Tetrachloroethene	0.025	ND
Bromomethane	0.050	ND	Toluene	0.025	3.5
Vinyl Chloride	0.050	ND	Chlorobenzene	0.025	ND
Chloroethane	0.050	ND	Ethylbenzene	0.025	TR
Methylene Chloride	0.025	TR	Hazardous Substance List Compounds:		
Trichlorofluoromethane	0.025	ND	Acetone	0.100	0.96
1,1-Dichloroethene	0.025	ND	Carbon Disulfide	0.050	ND
1,1-Dichloroethane	0.025	ND	2-Butanone	0.100	ND
trans-1,2-Dichloroethene	0.025	ND	Vinyl Acetate	0.025	ND
Chloroform	0.025	ND	4-Methyl-2-Pentanone	0.025	0.13
1,2-Dichloroethane	0.025	ND	2-Hexanone	0.025	ND
1,1,1-Trichloroethane	0.025	ND	Styrene	0.025	ND
Carbon Tetrachloride	0.025	ND	Total Xylenes	0.025	ND
Bromodichloromethane	0.025	ND	Additional Compounds:		
1,2-Dichloropropane	0.025	ND	Dibromoethane (EDB)	0.025	ND
cis-1,3-Dichloropropene	0.025	ND	Methyl-t-Butylether	0.050	ND
Trichloroethene	0.025	ND	1,2-Dichlorobenzene	0.025	ND
Benzene	0.025	0.45	1,3-Dichlorobenzene	0.025	ND
Dibromochloromethane	0.025	ND	1,4-Dichlorobenzene	0.025	ND
1,1,2-Trichloroethane	0.025	ND	Acrolein	0.050	ND
trans-1,3-Dichloropropene	0.025	ND	Acrylonitrile	0.050	ND
2-Chloroethylvinylether	0.050	ND			
Bromoform	0.025	ND			

Notes ND - Below minimum detectable level (MDL)
TR - Trace amount present but below MDL
* - mg/kg
Based on sample weight as received.
Additional compounds observed in sample

QA/QC Surrogate Recoveries:

d4-1,2-Dichloroethane: 91 %
d8-Toluene: 94 %
p-BFB: 92 %

Surrogate Acceptance Criteria:

Water	Soil
76-114%	70-121%
88-110%	84-138%
86-115%	59-113%

Client: Clean Harbors of Chicago
Sample ID: BORING #1 8/7 SAMPLE #3

CHAS Lab #: 90X08069-03AB
Date Received: 08/09/90

TENTATIVELY IDENTIFIED COMPOUNDS

<u>CAS Number</u>	<u>Compound</u>	<u>Fraction</u>	<u>Estimated Concentration*</u>
121-44-8	N,N-Diethyl-Ethanamine	VOA	0.040

Notes:

* = ng/kg



Client: Clean Harbors of Chicago
Sample I.D.: Boring 1 Sample 4
Sample Type: Soil

CHAS Lab #: 90X08069-04M
Date Received: 08/09/90

Parameter	MDL*	Result*	Digestion Date	Analysis Date	Method Number and Reference
Arsenic - Total	34	ND	08/13/90	08/14/90	3050/6010(c)
Cadmium - Total	2.52	ND	08/13/90	08/14/90	3050/6010(c)
Chromium - Total	3.36	152	08/13/90	08/14/90	3050/6010(c)
Lead - Total	42	150	08/13/90	08/14/90	3050/6010(c)
Mercury- Total	0.0611	0.0611	08/14/90	08/15/90	7470(c)
Selenium - Total	50	ND	08/13/90	08/14/90	3050/6010(c)
Silver- Total	1.8	ND	08/13/90	08/14/90	3005/6010(c)

Notes: ND - Below minimum detectable level (MDL)
* = mg/kg
Soil/Solid samples based on sample dry weight.

Client: Clean Harbors of Chicago
 Sample I.D.: Boring 1 Sample 4
 Sample Type: Soil

CHAS Lab #: 90X08069-04
 Date Received: 08/09/90
 Internal Code: VS70

Volatile Organics - System A
 by EPA Method 8240 (ref. c)

Analysis Date: 08/13/90

Parameter	MDL*	Conc.*	Parameter	MDL*	Conc.*
Priority Pollutant Compounds:			1,1,2,2-Tetrachloroethane	0.025	ND
Chloromethane	0.050	ND	Tetrachloroethene	0.025	ND
Bromomethane	0.050	ND	Toluene	0.025	2.5
Vinyl Chloride	0.050	ND	Chlorobenzene	0.025	ND
Chloroethane	0.050	ND	Ethylbenzene	0.025	0.034
Methylene Chloride	0.025	TR	Hazardous Substance List Compounds:		
Trichlorofluoromethane	0.025	ND	Acetone	0.100	1.0
1,1-Dichloroethene	0.025	ND	Carbon Disulfide	0.050	ND
1,1-Dichloroethane	0.025	ND	2-Butanone	0.100	ND
trans-1,2-Dichloroethene	0.025	ND	Vinyl Acetate	0.025	ND
Chloroform	0.025	ND	4-Methyl-2-Pentanone	0.025	0.36
1,2-Dichloroethane	0.025	ND	2-Hexanone	0.025	ND
1,1,1-Trichloroethane	0.025	ND	Styrene	0.025	ND
Carbon Tetrachloride	0.025	ND	Total Xylenes	0.025	0.13
Bromodichloromethane	0.025	ND	Additional Compounds:		
1,2-Dichloropropane	0.025	ND	Dibromoethane (EDB)	0.025	NI
cis-1,3-Dichloropropene	0.025	ND	Methyl-t-Butyl ether	0.050	ND
Trichloroethene	0.025	ND	1,2-Dichlorobenzene	0.025	ND
Benzene	0.025	0.96	1,3-Dichlorobenzene	0.025	ND
Dibromochloromethane	0.025	ND	1,4-Dichlorobenzene	0.025	ND
1,1,2-Trichloroethane	0.025	ND	Acrolein	0.050	ND
trans-1,3-Dichloropropene	0.025	ND	Acrylonitrile	0.050	ND
2-Chloroethylvinylether	0.050	ND			
Bromoform	0.025	ND			

Notes ND - Below minimum detectable level (MDL)
 TR - Trace amount present but below MDL
 * - mg/kg
 Based on sample weight as received.
 Additional compounds observed in sample

QA/QC Surrogate Recoveries:

d4-1,2-Dichloroethane: 88 %
 d8-Toluene: 95 %
 p-BFB: 103 %

Surrogate Acceptance Criteria:

Water	Soil
76-114%	70-121%
88-110%	84-138%
86-115%	59-113%

Client: Clean Harbors of Chicago
Sample ID: BORING #1 8/7 SAMPLE #4

CHAS Lab #: 90X08069-04AB
Date Received: 08/09/90

TENTATIVELY IDENTIFIED COMPOUNDS

<u>CAS Number</u>	<u>Compound</u>	<u>Fraction</u>	<u>Estimated Concentration*</u>
---	unknown compound	VOA	0.110
60-29-7	Ethyl ether	VOA	0.060
121-44-8	N,N-diethyl-Ethanamine	VOA	0.260
626-93-7	2-Hexanol	VOA	0.065

Notes:

* = mg/kg



Client: Clean Harbors of Chicago
Sample I.D.: Boring 2 Sample 1
Sample Type: Soil

CHAS Lab #: 90X08069-05M
Date Received: 08/09/90

Parameter	MDL*	Result*	Digestion Date	Analysis Date	Method Number and Reference
Arsenic - Total	30	ND	08/13/90	08/14/90	3050/6010(c)
Cadmium - Total	2.22	ND	08/13/90	08/14/90	3050/6010(c)
Chromium - Total	2.96	152	08/13/90	08/14/90	3050/6010(c)
Lead - Total	37	260	08/13/90	08/14/90	3050/6010(c)
Mercury- Total	0.0765	ND	08/14/90	08/15/90	7470(c)
Selenium - Total	44	ND	08/13/90	08/14/90	3050/6010(c)
Silver- Total	1.9	ND	08/13/90	08/14/90	3005/6010(c)

Notes: ND - Below minimum detectable level (MDL)
* = mg/kg
Soil/Solid samples based on sample dry weight.



Client: Clean Harbors of Chicago
 Sample ID: BORING #2, SAMPLE #1
 Sample Type: Soil

CHAS Lab #: 90X08069-05M
 Date Received: 08/09/90
 Internal Code: SS90

Semi-Volatile Base/Neutral and Acid Extractable Organic
 by EPA Method 8270 (ref. c) - System C
 Extraction Date: 08/15/90
 Analysis Date: 08/17/90

Base/Neutral Compounds	MDL*	Conc.*	Base/Neutral Compounds	MDL*	Conc.*
bis(2-Chloroethyl)Ether	1.7	ND	Di-n-Butylphthalate	1.7	ND
1,3-Dichlorobenzene	1.7	ND	Fluoranthene	1.7	ND
1,4-Dichlorobenzene	1.7	ND	Pyrene	1.7	ND
1,2-Dichlorobenzene	1.7	ND	Butylbenzylphthalate	1.7	ND
bis(2-Chloroisopropyl)Ether	1.7	ND	3,3'-Dichlorobenzidine	3.3	ND
N-Nitroso-Di-n-Propylamine	1.7	ND	Benzo(a)Anthracene	1.7	ND
Hexachloroethane	1.7	ND	bis(2-Ethylhexyl)Phthalate	3.3	ND
Nitrobenzene	1.7	ND	Chrysene	1.7	ND
Isophorone	1.7	ND	Di-n-Octylphthalate	1.7	ND
bis(2-Chloroethoxy)Methane	1.7	ND	Benzo(b)Fluoranthene	1.7	ND
1,2,4-Trichlorobenzene	1.7	ND	Benzo(k)Fluoranthene	1.7	ND
Naphthalene-----	1.7	TR	Benzo(a)Pyrene	1.7	ND
4-Chloroaniline	1.7	ND	Indeno(1,2,3-cd)Pyrene	1.7	ND
Hexachlorobutadiene	1.7	ND	Dibenz(a,h)Anthracene	1.7	ND
2-Methylnaphthalene	1.7	ND	Benzo(g,h,i)Perylene	1.7	ND
Hexachlorocyclopentadiene	1.7	ND			
2-Chloronaphthalene	1.7	ND			
2-Nitroaniline	8.3	ND	Acid Compounds	MDL*	Conc.*
Dimethyl Phthalate	1.7	ND	Phenol	1.7	ND
Acenaphthylene	1.7	ND	2-Chlorophenol	1.7	ND
3-Nitroaniline	8.3	ND	2-Methylphenol	1.7	ND
Acenaphthene	1.7	ND	4-Methylphenol	1.7	ND
Dibenzofuran	1.7	ND	2-Nitrophenol	1.7	ND
2,4-Dinitrotoluene	1.7	ND	2,4-Dimethylphenol	1.7	ND
2,6-Dinitrotoluene	1.7	ND	2,4-Dichlorophenol	1.7	ND
Diethylphthalate	1.7	ND	4-Chloro-3-methylphenol	1.7	ND
4-Chlorophenyl-phenylether	1.7	ND	2,4,6-Trichlorophenol	8.3	ND
Fluorene	1.7	ND	2,4,5-Trichlorophenol	8.3	ND
4-Nitroaniline	8.3	ND	2,4-Dinitrophenol	8.3	ND
N-Nitrosodiphenylamine	1.7	ND	4-Nitrophenol	8.3	ND
4-Bromophenyl-phenylether	1.7	ND	4,6-Dinitro-2-methylphenol	8.3	ND
Hexachlorobenzene	1.7	ND	Pentachlorophenol	8.3	ND
Phenanthrene	1.7	ND			
Anthracene	1.7	ND			

QA/QC Surrogate	Rec.	Range CLP
2-Fluorophenol	93%	25 - 121%
Phenol-D5	119%	24 - 113%
Nitrobenzene-D5	110%	23 - 120%
2-Fluorobiphenyl	122%	25 - 121%
2,4,6-Tribromophenol	25%	19 - 122%
Terphenyl-D14	98%	18 - 137%

Notes: ND = Below minimum detectable level (MDL)
 * = mg/kg based on sample weight as received
 TR = Trace amount present but below MDL

Client: Clean Harbors of Chicago
Sample I.D.: Boring 2 Sample 1
Sample Type: Soil

CHAS Lab #: 90X08069-05
Date Received: 08/09/90
Internal Code: VS70

Volatile Organics - System A
by EPA Method 8240 (ref. c)

Analysis Date: 08/10/90

Parameter	MDL*	Conc.*	Parameter	MDL*	Conc.
Priority Pollutant Compounds:			1,1,2,2-Tetrachloroethane	0.005	ND
Chloromethane	0.010	ND	Tetrachloroethene	0.005	ND
Bromomethane	0.010	ND	Toluene	0.005	0.007
Vinyl Chloride	0.010	ND	Chlorobenzene	0.005	ND
Chloroethane	0.010	ND	Ethylbenzene	0.005	ND
Methylene Chloride	0.005	ND	Hazardous Substance List Compounds:		
Trichlorofluoromethane	0.005	ND	Acetone	0.020	0.21
1,1-Dichloroethene	0.005	ND	Carbon Disulfide	0.010	ND
1,1-Dichloroethane	0.005	ND	2-Butanone	0.020	ND
trans-1,2-Dichloroethene	0.005	ND	Vinyl Acetate	0.005	N
Chloroform	0.005	ND	4-Methyl-2-Pentanone	0.005	ND
1,2-Dichloroethane	0.005	ND	2-Hexanone	0.005	ND
1,1,1-Trichloroethane	0.005	ND	Styrene	0.005	ND
Carbon Tetrachloride	0.005	ND	Total Xylenes	0.005	0.011
Bromodichloromethane	0.005	ND	Additional Compounds:		
1,2-Dichloropropane	0.005	ND	Dibromoethane (EDB)	0.005	N
cis-1,3-Dichloropropene	0.005	ND	Methyl-t-Butylether	0.010	ND
Trichloroethene	0.005	ND	1,2-Dichlorobenzene	0.005	ND
Benzene	0.005	0.006	1,3-Dichlorobenzene	0.005	ND
Dibromochloromethane	0.005	ND	1,4-Dichlorobenzene	0.005	ND
1,1,2-Trichloroethane	0.005	ND	Acrolein	0.010	ND
trans-1,3-Dichloropropene	0.005	ND	Acrylonitrile	0.010	ND
2-Chloroethylvinylether	0.010	ND			
Bromoform	0.005	ND			

Notes ND - Below minimum detectable level (MDL)
TR - Trace amount present but below MDL
* - mg/kg
Based on sample weight as received.
Additional peaks observed in sample analysis.
Additional compounds observed in sample

QA/QC Surrogate Recoveries:

d4-1,2-Dichloroethane: 82 %
d8-Toluene: 99 %
p-BFB: 97 %

Surrogate Acceptance Criteria:

Water	Soil
76-114%	70-121%
88-110%	84-138%
86-115%	59-113%



Client: Clean Harbors of Chicago
Sample ID: BORING #1 8/7 SAMPLE #1

CHAS Lab #: 90X08069-01AB
Date Received: 08/09/90

TENTATIVELY IDENTIFIED COMPOUNDS

<u>CAS Number</u>	<u>Compound</u>	<u>Fraction</u>	<u>Estimated Concentration*</u>
---	None Found	VOA	---

Notes:
* = mg/kg



Client: Clean Harbors of Chicago
Sample I.D.: Boring 1 Sample 2
Sample Type: Soil

CHAS Lab #: 90X08069-02M
Date Received: 08/09/90

Parameter	MDL*	Result*	Digestion Date	Analysis Date	Method Number and Reference
Arsenic - Total	37	ND	08/13/90	08/14/90	3050/6010(c)
Cadmium - Total	2.75	ND	08/13/90	08/14/90	3050/6010(c)
Chromium - Total	3.66	156	08/13/90	08/14/90	3050/6010(c)
Lead - Total	46	330	08/13/90	08/14/90	3050/6010(c)
Mercury- Total	0.0835	ND	08/14/90	08/15/90	7470(c)
Selenium - Total	55	ND	08/13/90	08/14/90	3050/6010(c)
Silver- Total	1.9	ND	08/13/90	08/14/90	3005/6010

Notes: ND - Below minimum detectable level (MDL)
* = mg/kg
Soil/Solid samples based on sample dry weight.



Clients: Clean Harbors of Chicago
Sample ID: EORING #1, SAMPLE #2
Sample Type: Soil

CHAS Lab #: 90X08069-02H
Date Received: 08/09/90
Internal Code: SS90

Semi-Volatile Base/Neutral and Acid Extractable Organic
by EPA Method 8270 (ref. c) - System C
Extraction Date: 08/10/90
Analysis Date: 08/18/90

Base/Neutral Compounds	MDL*	Conc.*	Base/Neutral Compounds	MDL*	Conc.*
bis(2-Chloroethyl)Ether	3.3	ND	Di-n-Butylphthalate	3.3	ND
1,3-Dichlorobenzene	3.3	ND	Fluoranthene	3.3	ND
1,4-Dichlorobenzene	3.3	ND	Pyrene	3.3	ND
1,2-Dichlorobenzene	3.3	ND	Butylbenzylphthalate	3.3	ND
bis(2-Chloroisopropyl)Ether	3.3	ND	3,3'-Dichlorobenzidine	6.7	ND
N-Nitroso-Di-n-Propylamine	3.3	ND	Benzo(a)Anthracene	3.3	ND
Hexachloroethane	3.3	ND	bis(2-Ethylhexyl)Phthalate	6.7	ND
Nitrobenzene	3.3	ND	Chrysene	3.3	ND
Isophorone	3.3	ND	Di-n-Octylphthalate	3.3	ND
bis(2-Chloroethoxy)Methane	3.3	ND	Benzo(b)Fluoranthene	3.3	ND
1,2,4-Trichlorobenzene	3.3	ND	Benzo(k)Fluoranthene	3.3	ND
Naphthalene	3.3	ND	Benzo(a)Pyrene	3.3	ND
4-Chloroaniline	3.3	ND	Indeno(1,2,3-cd)Pyrene	3.3	ND
Hexachlorobutadiene	3.3	ND	Dibenz(a,h)Anthracene	3.3	ND
2-Methylnaphthalene	3.3	ND	Benzo(g,h,i)Perylene	3.3	ND
Hexachlorocyclopentadiene	3.3	ND			
2-Chloronaphthalene	3.3	ND			
2-Nitroaniline	17	ND			
Dimethyl Phthalate	3.3	ND			
Acenaphthylene	3.3	ND			
3-Nitroaniline	17	ND			
Acenaphthene	3.3	ND			
Dibenzofuran	3.3	ND			
2,4-Dinitrotoluene	3.3	ND			
2,6-Dinitrotoluene	3.3	ND			
Diethylphthalate	3.3	ND			
4-Chlorophenyl-phenylether	3.3	ND			
Fluorene	3.3	ND			
4-Nitroaniline	17	ND			
N-Nitrosodiphenylamine	3.3	ND			
4-Bromophenyl-phenylether	3.3	ND			
Hexachlorobenzene	3.3	ND			
Phenanthrene-----	3.3	TR			
Anthracene	3.3	ND			

Acid Compounds	MDL*	Conc.*
Phenol	3.3	ND
2-Chlorophenol	3.3	ND
2-Methylphenol	3.3	ND
4-Methylphenol	3.3	ND
2-Nitrophenol	3.3	ND
2,4-Dimethylphenol	3.3	ND
2,4-Dichlorophenol	3.3	ND
4-Chloro-3-methylphenol	3.3	ND
2,4,6-Trichlorophenol	17	ND
2,4,5-Trichlorophenol	17	ND
2,4-Dinitrophenol	17	ND
4-Nitrophenol	17	ND
4,6-Dinitro-2-methylphenol	17	ND
Pentachlorophenol	17	ND

QA/QC Surrogate	Rec.	Range CLP
2-Fluorophenol	NAX	25 - 121%
Phenol-D5	NAX	24 - 113%
Nitrobenzene-D5	NAX	23 - 120%
2-Fluorobiphenyl	NAX	25 - 121%
2,4,6-Tribromophenol	NAX	19 - 122%
Terphenyl-D14	NAX	18 - 137%

Notes: ND = Below minimum detectable level (MDL)
* = mg/kg based on sample weight as received
TR = Trace amount present but below MDL
NA = Not applicable

Client: Clean Harbors of Chicago
Sample I.D.: Boring 1 Sample 2
Sample Type: Soil

CHAS Lab #: 90X08069-02A
Date Received: 08/09/90
Internal Code: VS70

Volatile Organics - System A
by EPA Method 8240 (ref. c)

Analysis Date: 08/10/90

Parameter	MDL*	Conc.*	Parameter	MDL*	Conc.*
Priority Pollutant Compounds:			1,1,2,2-Tetrachloroethane	0.005	ND
Chloromethane	0.010	ND	Tetrachloroethene	0.005	ND
Bromomethane	0.010	ND	Toluene	0.005	0.064
Vinyl Chloride	0.010	ND	Chlorobenzene	0.005	ND
Chloroethane	0.010	ND	Ethylbenzene	0.005	ND
Methylene Chloride	0.005	ND	Hazardous Substance List Compounds:		
Trichlorofluoromethane	0.005	ND	Acetone	0.020	0.16
1,1-Dichloroethene	0.005	ND	Carbon Disulfide	0.010	ND
1,1-Dichloroethane	0.005	ND	2-Butanone	0.020	ND
trans-1,2-Dichloroethene	0.005	ND	Vinyl Acetate	0.005	ND
Chloroform	0.005	ND	4-Methyl-2-Pentanone	0.005	ND
1,2-Dichloroethane	0.005	ND	2-Hexanone	0.005	ND
1,1,1-Trichloroethane	0.005	ND	Styrene	0.005	ND
Carbon Tetrachloride	0.005	ND	Total Xylenes	0.005	ND
Bromodichloromethane	0.005	ND	Additional Compounds:		
1,2-Dichloropropane	0.005	ND	Dibromoethane (EDB)	0.005	ND
cis-1,3-Dichloropropene	0.005	ND	Methyl-t-Butylether	0.010	ND
Trichloroethene	0.005	ND	1,2-Dichlorobenzene	0.005	ND
Benzene	0.005	8	1,3-Dichlorobenzene	0.005	ND
Dibromochloromethane	0.005	ND	1,4-Dichlorobenzene	0.005	ND
1,1,2-Trichloroethane	0.005	ND	Acrolein	0.010	ND
trans-1,3-Dichloropropene	0.005	ND	Acrylonitrile	0.010	ND
2-Chloroethylvinylether	0.010	ND			
Bromoform	0.005	ND			

Notes ND - Below minimum detectable level (MDL)
TR - Trace amount present but below MDL
* - mg/kg
Based on sample weight as received.
Additional compounds observed in sample

QA/QC Surrogate Recoveries:

d4-1,2-Dichloroethane: 91 %
d8-Toluene: 95 %
p-BFB: 93 %

Surrogate Acceptance Criteria:

Water	Soil
76-114%	70-121%
88-110%	84-138%
86-115%	59-113%



Client: Clean Harbors of Chicago
Sample ID: BORING #2 SAMPLE #1

CHAS Lab #: 90X08069-05A
Date Received: 08/09/90

TENTATIVELY IDENTIFIED COMPOUNDS

<u>CAS Number</u>	<u>Compound</u>	<u>Fraction</u>	<u>Estimated Concentration*</u>
121-44-8	N,N-diethyl-Ethanamine	VOA	0.029

Notes:

* = mg/kg



Client: Clean Harbors of Chicago
Sample I.D.: Boring 2 Sample 2
Sample Type: Soil

CHAS Lab #: 90X08069-06M
Date Received: 08/09/90

Parameter	MDL*	Result*	Digestion Date	Analysis Date	Method Number and Reference
Arsenic - Total	32	ND	08/13/90	08/14/90	3050/6010(c)
Cadmium - Total	2.40	ND	08/13/90	08/14/90	3050/6010(c)
Chromium - Total	3.21	373	08/13/90	08/14/90	3050/6010(c)
Lead - Total	40	ND	08/13/90	08/14/90	3050/6010(c)
Mercury- Total	0.0649	0.1298	08/14/90	08/15/90	7470(c)
Selenium - Total	48	ND	08/13/90	08/14/90	3050/6010(c)
Silver- Total	1.4	ND	08/13/90	08/14/90	3005/6010(c)

Notes: ND - Below minimum detectable level (MDL)
* = mg/kg
Soil/Solid samples based on sample dry weight.



Client: Clean Harbors of Chicago
Sample ID: BORING #2, SAMPLE #2
Sample Type: Soil

CHAS Lab #: 90X08069-06M
Date Received: 08/09/90
Internal Code: SS90

Semi-Volatile Base/Neutral and Acid Extractable Organic
by EPA Method 8270 (ref. c) - System C
Extraction Date: 08/15/90
Analysis Date: 08/18/90

Base/Neutral Compounds	MDL*	Conc.*	Base/Neutral Compounds	MDL*	Conc.*
bis(2-Chloroethyl)Ether	3.3	ND	Di-n-Butylphthalate	3.3	ND
1,3-Dichlorobenzene	3.3	ND	Fluoranthene	3.3	ND
1,4-Dichlorobenzene	3.3	ND	Pyrene	3.3	ND
1,2-Dichlorobenzene	3.3	ND	Butylbenzylphthalate	3.3	ND
bis(2-Chloroisopropyl)Ether	3.3	ND	3,3'-Dichlorobenzidine	6.7	ND
N-Nitroso-Di-n-Propylamine	3.3	ND	Benzo(a)Anthracene	3.3	ND
Hexachloroethane	3.3	ND	bis(2-Ethylhexyl)Phthalate	6.7	ND
Nitrobenzene	3.3	ND	Chrysene	3.3	ND
Isophorone	3.3	ND	Di-n-Octylphthalate	3.3	ND
bis(2-Chloroethoxy)Methane	3.3	ND	Benzo(b)Fluoranthene	3.3	ND
1,2,4-Trichlorobenzene	3.3	ND	Benzo(k)Fluoranthene	3.3	ND
Naphthalene	3.3	ND	Benzo(a)Pyrene	3.3	ND
4-Chloroaniline	3.3	ND	Indeno(1,2,3-cd)Pyrene	3.3	ND
Hexachlorobutadiene	3.3	ND	Dibenz(a,h)Anthracene	3.3	ND
2-Methylnaphthalene	3.3	ND	Benzo(g,h,i)Perylene	3.3	ND
Hexachlorocyclopentadiene	3.3	ND			
2-Chloronaphthalene	3.3	ND			
2-Nitroaniline	8.3	ND	Acid Compounds	MDL*	Conc.*
Dimethyl Phthalate	3.3	ND	Phenol	3.3	ND
Acenaphthylene	3.3	ND	2-Chlorophenol	3.3	ND
3-Nitroaniline	8.3	ND	2-Methylphenol	3.3	ND
Acenaphthene	3.3	ND	4-Methylphenol	3.3	ND
Dibenzofuran	3.3	ND	2-Nitrophenol	3.3	ND
2,4-Dinitrotoluene	3.3	ND	2,4-Dimethylphenol	3.3	ND
2,6-Dinitrotoluene	3.3	ND	2,4-Dichlorophenol	3.3	ND
Diethylphthalate	3.3	ND	4-Chloro-3-methylphenol	3.3	ND
4-Chlorophenyl-phenylether	3.3	ND	2,4,6-Trichlorophenol	8.3	ND
Fluorene	3.3	ND	2,4,5-Trichlorophenol	8.3	ND
4-Nitroaniline	8.3	ND	2,4-Dinitrophenol	8.3	ND
N-Nitrosodiphenylamine	3.3	ND	4-Nitrophenol	8.3	ND
4-Bromophenyl-phenylether	3.3	ND	4,6-Dinitro-2-methylphenol	8.3	ND
Hexachlorobenzene	3.3	ND	Pentachlorophenol	8.3	ND
Phenanthrene	3.3	ND			
Anthracene	3.3	ND			

QA/QC Surrogate	Rec.	Range CLP
2-Fluorophenol	NAX	25 - 121%
Phenol-D5	NAX	24 - 113%
Nitrobenzene-D5	NAX	23 - 120%
2-Fluorobiphenyl	NAX	25 - 121%
2,4,6-Tribromophenol	NAX	19 - 122%
Terphenyl-D14	NAX	18 - 137%

Notes: ND = Below minimum detectable level (MDL)
* = mg/kg based on sample weight as received
NA = Not applicable



Client: Clean Harbors of Chicago
Sample I.D.: Boring 2 Sample 2
Sample Type: Soil

CHAS Lab #: 90X08067 0
Date Received: 08/10/90
Internal Code: VS70

Volatile Organics - System A
by EPA Method 8240 (ref. c)

Analysis Date: 08/10/90

Parameter	MDL*	Conc.*	Parameter	MDL*	Conc.
Priority Pollutant Compounds:			1,1,2,2-Tetrachloroethane	0.005	ND
Chloromethane	0.010	ND	Tetrachloroethene	0.005	ND
Bromomethane	0.010	ND	Toluene	0.005	0.037
Vinyl Chloride	0.010	ND	Chlorobenzene	0.005	ND
Chloroethane	0.010	ND	Ethylbenzene	0.005	0.010
Methylene Chloride	0.005	ND	Hazardous Substance List Compounds:		
Trichlorofluoromethane	0.005	ND	Acetone	0.020	0.027
1,1-Dichloroethene	0.005	ND	Carbon Disulfide	0.010	ND
1,1-Dichloroethane	0.005	ND	2-Butanone	0.020	TR
trans-1,2-Dichloroethene	0.005	ND	Vinyl Acetate	0.005	ND
Chloroform	0.005	ND	4-Methyl-2-Pentanone	0.005	ND
1,2-Dichloroethane	0.005	ND	2-Hexanone	0.005	ND
1,1,1-Trichloroethane	0.005	ND	Styrene	0.005	ND
Carbon Tetrachloride	0.005	ND	Total Xylenes	0.005	ND
Bromodichloromethane	0.005	ND	Additional Compounds:		
1,2-Dichloropropane	0.005	ND	Dibromoethane (EDB)	0.005	ND
cis-1,3-Dichloropropene	0.005	ND	Methyl-t-Butylether	0.010	ND
Trichloroethene	0.005	ND	1,2-Dichlorobenzene	0.005	ND
Benzene	0.005	0.037	1,3-Dichlorobenzene	0.005	ND
Dibromochloromethane	0.005	ND	1,4-Dichlorobenzene	0.005	ND
1,1,2-Trichloroethane	0.005	ND	Acrolein	0.010	ND
trans-1,3-Dichloropropene	0.005	ND	Acrylonitrile	0.010	ND
2-Chloroethylvinylether	0.010	ND			
Bromoform	0.005	ND			

Notes ND - Below minimum detectable level (MDL)
TR - Trace amount present but below MDL
* - mg/kg
Based on sample weight as received.
Additional compounds observed in sample

QA/QC Surrogate Recoveries:

d4-1,2-Dichloroethane: 81 %
d8-Toluene: 93 %
p-BFB: 89 %

Surrogate Acceptance Criteria:

Water	Soil
76-114%	70-121%
88-110%	84-138%
86-115%	59-113%



Client: Clean Harbors of Chicago
Sample ID: BORING #2 SAMPLE #2

CHAS Lab #: 90X08069-06A
Date Received: 08/09/90

TENTATIVELY IDENTIFIED COMPOUNDS

<u>CAS Number</u>	<u>Compound</u>	<u>Fraction</u>	<u>Estimated Concentration*</u>
75-97-8	3,3-dimethyl-2-Butanone	VOA	0.006
121-44-8	N,N-diethyl-Ethanamine	VOA	0.018
17348-59-3	2-methyl-2-(1-methyl ethoxy)-Propane	VOA	0.017

Notes:

* - ng/kg



Client: Clean Harbors of Chicago
Sample I.D.: Boring 2 Sample 3
Sample Type: Soil

CHAS Lab #: 90X08069-07M
Date Received: 08/09/90

Parameter	MDL*	Result*	Digestion Date	Analysis Date	Method Number and Reference
Arsenic - Total	32	ND	08/13/90	08/14/90	3050/6010(c)
Cadmium - Total	2.43	ND	08/13/90	08/14/90	3050/6010(c)
Chromium - Total	3.24	286	08/13/90	08/14/90	3050/6010(c)
Lead - Total	41	250	08/13/90	08/14/90	3050/6010(c)
Mercury- Total	0.0631	0.0947	08/14/90	08/15/90	7470(c)
Selenium - Total	49	ND	08/13/90	08/14/90	3050/6010(c)
Silver- Total	1.6	ND	08/13/90	08/14/90	3005/6010(c)

Notes: ND - Below minimum detectable level (MDL)
* = mg/kg
Soil/Solid samples based on sample dry weight.



Client: Clean Harbors of Chicago
Sample ID: BORING #2, SAMPLE #3
Sample Type: Soil

CHAS Lab #: 90X08069-07M
Date Received: 08/09/90
Internal Code: SS90

Semi-Volatile Base/Neutral and Acid Extractable Organic
by EPA Method 8270 (ref. c) System C
Extraction Date: 08/15/90
Analysis Date: 08/18/90

Base/Neutral Compounds	MDL*	Conc.*	Base/Neutral Compounds	MDL*	Conc.*
bis(2-Chloroethyl)Ether	3.3	ND	Di-n-Butylphthalate	3.3	ND
1,3-Dichlorobenzene	3.3	ND	Fluoranthene	3.3	ND
1,4-Dichlorobenzene	3.3	ND	Pyrene	3.3	ND
1,2-Dichlorobenzene	3.3	ND	Butylbenzylphthalate	3.3	ND
bis(2-Chloroisopropyl)Ether	3.3	ND	3,3'-Dichlorobenzidine	6.7	ND
N-Nitroso-Di-n-Propylamine	3.3	ND	Benzo(a)Anthracene	3.3	ND
Hexachloroethane	3.3	ND	bis(2-Ethylhexyl)Phthalate	6.7	ND
Nitrobenzene	3.3	ND	Chrysene	3.3	ND
Isophorone	3.3	ND	Di-n-Octylphthalate	3.3	ND
bis(2-Chloroethoxy)Methane	3.3	ND	Benzo(b)Fluoranthene	3.3	ND
1,2,4-Trichlorobenzene	3.3	ND	Benzo(k)Fluoranthene	3.3	ND
Naphthalene-----	3.3	TR	Benzo(a)Pyrene	3.3	ND
4-Chloroaniline	3.3	ND	Indeno(1,2,3-cd)Pyrene	3.3	ND
Hexachlorobutadiene	3.3	ND	Dibenz(a,h)Anthracene	3.3	ND
2-Methylnaphthalene-----	3.3	2.6	Benzo(g,h,i)Perylene	3.3	ND
Hexachlorocyclopentadiene	3.3	ND			
2-Chloronaphthalene	3.3	ND			
2-Nitroaniline	17	ND			
Dimethyl Phthalate	3.3	ND			
Acenaphthylene	3.3	ND			
3-Nitroaniline	17	ND			
Acenaphthene	3.3	ND			
Dibenzofuran	3.3	ND			
2,4-Dinitrotoluene	3.3	ND			
2,6-Dinitrotoluene	3.3	ND			
Diethylphthalate	3.3	ND			
4-Chlorophenyl-phenylether	3.3	ND			
Fluorene	3.3	ND			
4-Nitroaniline	17	ND			
N-Nitrosodiphenylamine	3.3	ND			
4-Bromophenyl-phenylether	3.3	ND			
Hexachlorobenzene	3.3	ND			
Phenanthrene	3.3	ND			
Anthracene	3.3	ND			

Acid Compounds	MDL*	Conc.*
Phenol-----	3.3	11
2-Chlorophenol	3.3	ND
2-Methylphenol	3.3	ND
4-Methylphenol	3.3	ND
2-Nitrophenol	3.3	ND
2,4-Dimethylphenol	3.3	ND
2,4-Dichlorophenol	3.3	ND
4-Chloro-3-methylphenol	3.3	ND
2,4,6-Trichlorophenol	17	ND
2,4,5-Trichlorophenol	17	ND
2,4-Dinitrophenol	17	ND
4-Nitrophenol	17	ND
4,6-Dinitro-2-methylphenol	17	ND
Pentachlorophenol	17	ND

QA/QC Surrogate	Rec.	Range CLP
2-Fluorophenol	NAX	25 - 121X
Phenol-D5	NAX	24 - 113X
Nitrobenzene-D5	NAX	23 - 120X
2-Fluorobiphenyl	NAX	25 - 121X
2,4,6-Tribromophenol	NAX	19 - 122X
Terphenyl-D14	NAX	18 - 137X

Notes: ND = Below minimum detectable level (MDL)
* = mg/kg based on sample weight as received
TR = Trace amount present below MDL
NA = Not applicable

Client: Clean Harbors of Chicago
 Sample I.D.: Boring 2 Sample 3
 Sample Type: Soil

CHAS Lab #: 90X08069-07
 Date Received: 08/09/90
 Internal Code: VS70

Volatile Organics - System A
 by EPA Method 8240 (ref. c)

Analysis Date: 08/10/90

Parameter	MDL*	Conc.*	Parameter	MDL*	Conc.*
Priority Pollutant Compounds:			1,1,2,2-Tetrachloroethane	0.005	ND
Chloromethane	0.010	ND	Tetrachloroethene	0.005	ND
Bromomethane	0.010	ND	Toluene	0.005	0.14
Vinyl Chloride	0.010	ND	Chlorobenzene	0.005	ND
Chloroethane	0.010	ND	Ethylbenzene	0.005	0.019
Methylene Chloride	0.005	TR	Hazardous Substance List Compounds:		
Trichlorofluoromethane	0.005	ND	Acetone	0.020	0.82
1,1-Dichloroethene	0.005	ND	Carbon Disulfide	0.010	ND
1,1-Dichloroethane	0.005	ND	2-Butanone	0.020	0.027
trans-1,2-Dichloroethene	0.005	ND	Vinyl Acetate	0.005	NE
Chloroform	0.005	ND	4-Methyl-2-Pentanone	0.005	0.074
1,2-Dichloroethane	0.005	TR	2-Hexanone	0.005	ND
1,1,1-Trichloroethane	0.005	ND	Styrene	0.005	TR
Carbon Tetrachloride	0.005	ND	Total Xylenes	0.005	0.12
Bromodichloromethane	0.005	ND	Additional Compounds:		
1,2-Dichloropropane	0.005	ND	Dibromoethane (EDB)	0.005	ND
cis-1,3-Dichloropropene	0.005	ND	Methyl-t-Butylether	0.010	ND
Trichloroethene	0.005	ND	1,2-Dichlorobenzene	0.005	ND
Benzene	0.005	0.32	1,3-Dichlorobenzene	0.005	ND
Dibromochloromethane	0.005	ND	1,4-Dichlorobenzene	0.005	ND
1,1,2-Trichloroethane	0.005	ND	Acrolein	0.010	ND
trans-1,3-Dichloropropene	0.005	ND	Acrylonitrile	0.010	ND
2-Chloroethylvinylether	0.010	ND			
Bromoform	0.005	ND			

Notes ND - Below minimum detectable level (MDL)
 TR - Trace amount present but below MDL
 * = ng/kg
 Based on sample weight as received.
 Additional compounds observed in sample

QA/QC Surrogate Recoveries:

d4-1,2-Dichloroethane: 85 %
 d8-Toluene: 92 %
 p-BFB: 96 %

Surrogate Acceptance Criteria:

Water	Soil
76-114%	70-121%
88-110%	84-138%
86-115%	59-113%



Client: Clean Harbors of Chicago
Sample ID: BORING #2 SAMPLE #3

CHAS Lab #: 90X08069-07A
Date Received: 08/09/90

TENTATIVELY IDENTIFIED COMPOUNDS

<u>CAS Number</u>	<u>Compound</u>	<u>Fraction</u>	<u>Estimated Concentration*</u>
67-63-0	2-Propanol	VOA	0.025
75-50-3	N,N-dimethyl-Methanamine	VOA	0.016
60-29-7	Ethyl Ether	VOA	0.007
6707-88-6	octahydro-1,3,4-Metheno	VOA	
	1H-Cyclobuta-[cd]Pentalene	VOA	0.010
---	Hydrocarbon	VOA	0.033

Notes:

* = mg/kg



Client: Clean Harbors of Chicago
Sample I.D.: Boring 2 Sample 4
Sample Type: Soil

CHAS Lab #: 90X08069-08M
Date Received: 08/09/90

Parameter	MDL*	Result*	Digestion Date	Analysis Date	Method Number and Reference
Arsenic - Total	36	ND	08/13/90	08/14/90	3050/6010(c)
Cadmium - Total	2.73	ND	08/13/90	08/14/90	3050/6010(c)
Chromium - Total	3.64	964	08/13/90	08/14/90	3050/6010(c)
Lead - Total	45	ND	08/13/90	08/14/90	3050/6010(c)
Mercury- Total	0.0660	ND	08/14/90	08/15/90	7470(c)
Selenium - Total	55	ND	08/13/90	08/14/90	3050/6010(c)
Silver- Total	1.7	ND	08/13/90	08/14/90	3005/6010(c)

Notes: ND - Below minimum detectable level (MDL)
* = mg/kg
Soil/Solid samples based on sample dry weight.



Client: Clean Harbors of Chicago
Sample I.D.: Boring 2 Sample 4
Sample Type: Soil

CHAS Lab #: 90X08069-08/
Date Received: 08/09/90
Internal Code: VS70

Volatile Organics - System A
by EPA Method 8240 (ref. c)

Analysis Date: 08/10/90

Parameter	MDL*	Conc.*	Parameter	MDL*	Conc.*
Priority Pollutant Compounds:			1,1,2,2-Tetrachloroethane	0.025	ND
Chloromethane	0.050	ND	Tetrachloroethane	0.025	ND
Bromomethane	0.050	ND	Toluene	0.025	0.70
Vinyl Chloride	0.050	ND	Chlorobenzene	0.025	ND
Chloroethane	0.050	ND	Ethylbenzene	0.025	0.048
Methylene Chloride	0.025	TR	Hazardous Substance List Compounds:		
Trichlorofluoromethane	0.025	ND	Acetone	0.100	1.4
1,1-Dichloroethene	0.025	ND	Carbon Disulfide	0.050	ND
1,1-Dichloroethane	0.025	ND	2-Butanone	0.100	ND
trans-1,2-Dichloroethene	0.025	ND	Vinyl Acetate	0.025	ND
Chloroform	0.025	ND	4-Methyl-2-Pentanone	0.025	0.20
1,2-Dichloroethane	0.025	ND	2-Hexanone	0.025	ND
1,1,1-Trichloroethane	0.025	ND	Styrene	0.025	TR
Carbon Tetrachloride	0.025	ND	Total Xylenes	0.025	0.30
Bromodichloromethane	0.025	ND	Additional Compounds:		
1,2-Dichloropropane	0.025	ND	Dibromoethane (EDB)	0.025	ND
cis-1,3-Dichloropropene	0.025	ND	Methyl-t-Butylether	0.050	ND
Trichloroethene	0.025	ND	1,2-Dichlorobenzene	0.025	ND
Benzene	0.025	4.1	1,3-Dichlorobenzene	0.025	ND
Dibromochloromethane	0.025	ND	1,4-Dichlorobenzene	0.025	ND
1,1,2-Trichloroethane	0.025	ND	Acrolein	0.050	0.37
trans-1,3-Dichloropropene	0.025	ND	Acrylonitrile	0.050	ND
2-Chloroethylvinylether	0.050	ND			
Bromoform	0.025	ND			

Notes ND - Below minimum detectable level (MDL)
TR - Trace amount present but below MDL
* - mg/kg
Based on sample weight as received.
No additional peaks observed in sample

QA/QC Surrogate Recoveries:

d4-1,2-Dichloroethane: 86 %
d8-Toluene: 96 %
p-BFB: 95 %

Surrogate Acceptance Criteria:

Water	Soil
76-114%	70-121%
88-110%	84-138%
86-115%	59-113%



Client: Clean Harbors of Chicago
Sample ID: BORING #2 SAMPLE #4

CHAS Lab #: 90X08069-08AB
Date Received: 08/09/90

TENTATIVELY IDENTIFIED COMPOUNDS

<u>CAS Number</u>	<u>Compound</u>	<u>Fraction</u>	<u>Estimated Concentration*</u>
---	None Found	VOA	---

Notes:

* - mg/kg



Client: Clean Harbors of Chicago
Sample I.D.: Boring 3 Sample 1
Sample Type: Soil

CHAS Lab #: 90X08069-09M
Date Received: 08/09/90

Parameter	MDL*	Result*	Digestion Date	Analysis Date	Method Number and Reference
Arsenic - Total	34	ND	08/13/90	08/14/90	3050/6010(c)
Cadmium - Total	2.51	5.53	08/13/90	08/14/90	3050/6010(c)
Chromium - Total	3.35	531	08/13/90	08/14/90	3050/6010(c)
Lead - Total	42	400	08/13/90	08/14/90	3050/6010(c)
Mercury- Total	0.0575	0.1724	08/14/90	08/15/90	7470(c)
Selenium - Total	50	ND	08/13/90	08/14/90	3050/6010(c)
Silver- Total	1.7	ND	08/13/90	08/14/90	3005/6010(c)

Notes: ND - Below minimum detectable level (MDL)
* = mg/kg
Soil/Solid samples based on sample dry weight.



Client: Clean Harbors of Chicago
Sample ID: BORING #3, SAMPLE #1
Sample Type: Soil

CHAS Lab #: 90X08069-09M
Date Received: 08/09/90
Internal Code: SS90

Semi-Volatile Base/Neutral and Acid Extractable Organic
by EPA Method 8270 (ref. c) - System C
Extraction Date: 08/15/90
Analysis Date: 08/18/90

Base/Neutral Compounds	MDL*	Conc.*	Base/Neutral Compounds	MDL*	Conc.*
bis(2-Chloroethyl)Ether	3.3	ND	Di-n-Butylphthalate	3.3	ND
1,3-Dichlorobenzene	3.3	ND	Fluoranthene	3.3	ND
1,4-Dichlorobenzene	3.3	ND	Pyrene-----	3.3	TR
1,2-Dichlorobenzene	3.3	ND	Butylbenzylphthalate	3.3	ND
bis(2-Chloroisopropyl)Ether	3.3	ND	3,3'-Dichlorobenzidine	6.7	ND
N-Nitroso-Di-n-Propylamine	3.3	ND	Benzo(a)Anthracene-----	3.3	TR
Hexachloroethane	3.3	ND	bis(2-Ethylhexyl)Phthalate	6.7	28
Nitrobenzene	3.3	ND	Chrysene	3.3	ND
Isophorone	3.3	ND	Di-n-Octylphthalate	3.3	ND
bis(2-Chloroethoxy)Methane	3.3	ND	Benzo(b)Fluoranthene	3.3	ND
1,2,4-Trichlorobenzene	3.3	ND	Benzo(k)Fluoranthene-----	3.3	5.6
Naphthalene	3.3	ND	Benzo(a)Pyrene-----	3.3	TR
4-Chloroaniline-----	3.3	9.4	Indeno(1,2,3-cd)Pyrene-----	3.3	TR
Hexachlorobutadiene	3.3	ND	Dibenz(a,h)Anthracene	3.3	ND
2-Methylnaphthalene	3.3	ND	Benzo(g,h,i)Perylene-----	3.3	TR
Hexachlorocyclopentadiene	3.3	ND			
2-Chloronaphthalene	3.3	ND			
2-Nitroaniline	1.7	ND			
Dimethyl Phthalate	3.3	ND			
Acenaphthylene	3.3	ND			
3-Nitroaniline	1.7	ND			
Acenaphthene	3.3	ND			
Dibenzofuran	3.3	ND			
2,4-Dinitrotoluene	3.3	ND			
2,6-Dinitrotoluene	3.3	ND			
Diethylphthalate	3.3	ND			
4-Chlorophenyl-phenylether	3.3	ND			
Fluorene	3.3	ND			
4-Nitroaniline	1.7	ND			
N-Nitrosodiphenylamine	3.3	ND			
4-Bromophenyl-phenylether	3.3	ND			
Hexachlorobenzene-----	3.3	23			
Phenanthrene	3.3	ND			
Anthracene	3.3	ND			

Acid Compounds	MDL*	Conc.*
Phenol-----	3.3	TR
2-Chlorophenol	3.3	ND
2-Methylphenol	3.3	ND
4-Methylphenol	3.3	ND
2-Nitrophenol	3.3	ND
2,4-Dimethylphenol	3.3	ND
2,4-Dichlorophenol	3.3	ND
4-Chloro-3-methylphenol	3.3	ND
2,4,6-Trichlorophenol	1.7	ND
2,4,5-Trichlorophenol	1.7	ND
2,4-Dinitrophenol	1.7	ND
4-Nitrophenol	1.7	ND
4,6-Dinitro-2-methylphenol	1.7	ND
Pentachlorophenol	1.7	ND

QA/QC Surrogate	Rec.	Range CLP
2-Fluorophenol	NAX	25 - 121X
Phenol-D5	NAX	24 - 113X
Nitrobenzene-D5	NAX	23 - 120X
2-Fluorobiphenyl	NAX	25 - 121X
2,4,6-Tribromophenol	NAX	19 - 122X
Terphenyl-D14	NAX	18 - 137X

Notes: ND = Below minimum detectable level (MDL)
* = mg/kg based on sample weight as received
TR = Trace amount present but below MDL
NA = Not applicable



Client: Clean Harbors of Chicago
Sample I.D.: Boring 3 Sample 1
Sample Type: Soil

CHAS Lab #: 90X08069-09A
Date Received: 08/09/90
Internal Code: VS70

Volatile Organics - System A
by EPA Method 8240 (ref. c)

Analysis Date: 08/11/90

Parameter	MDL*	Conc.*	Parameter	MDL*	Conc.*
Priority Pollutant Compounds:			1,1,2,2-Tetrachloroethane	0.025	ND
Chloromethane	0.050	ND	Tetrachloroethene	0.025	ND
Bromomethane	0.050	ND	Toluene	0.025	ND
Vinyl Chloride	0.050	ND	Chlorobenzene	0.025	ND
Chloroethane	0.050	ND	Ethylbenzene	0.025	ND
Methylene Chloride	0.025	ND	Hazardous Substance List Compounds:		
Trichlorofluoromethane	0.025	ND	Acetone	0.100	TR
1,1-Dichloroethene	0.025	ND	Carbon Disulfide	0.050	ND
1,1-Dichloroethane	0.025	ND	2-Butanone	0.100	ND
trans-1,2-Dichloroethene	0.025	ND	Vinyl Acetate	0.025	ND
Chloroform	0.025	ND	4-Methyl-2-Pentanone	0.025	ND
1,2-Dichloroethane	0.025	ND	2-Hexanone	0.025	ND
1,1,1-Trichloroethane	0.025	ND	Styrene	0.025	ND
Carbon Tetrachloride	0.025	ND	Total Xylenes	0.025	ND
Bromodichloromethane	0.025	ND	Additional Compounds:		
1,2-Dichloropropane	0.025	ND	Dibromoethane (EDB)	0.025	ND
cis-1,3-Dichloropropene	0.025	ND	Methyl-t-Butylether	0.050	ND
Trichloroethene	0.025	ND	1,2-Dichlorobenzene	0.025	ND
Benzene	0.025	ND	1,3-Dichlorobenzene	0.025	ND
Dibromochloromethane	0.025	ND	1,4-Dichlorobenzene	0.025	ND
1,1,2-Trichloroethane	0.025	ND	Acrolein	0.050	ND
trans-1,3-Dichloropropene	0.025	ND	Acrylonitrile	0.050	ND
2-Chloroethylvinylether	0.050	ND			
Bromoform	0.025	ND			

Notes ND - Below minimum detectable level (MDL)
TR - Trace amount present but below MDL
* - mg/kg
Based on sample weight as received.
No additional peaks observed in sample

QA/QC Surrogate Recoveries:

d4-1,2-Dichloroethane: 83 %
d8-Toluene: 95 %
p-BFB: 92 %

Surrogate Acceptance Criteria:

Water	Soil
76-114%	70-121%
88-110%	84-138%
86-115%	59-113%



Client: Clean Harbors of Chicago
Sample ID: BORING #3 SAMPLE #1

CHAS Lab #: 90X08069-09A
Date Received: 08/09/90

TENTATIVELY IDENTIFIED COMPOUNDS

<u>CAS Number</u>	<u>Compound</u>	<u>Fraction</u>	<u>Estimated Concentration*</u>
---	None Found	VOA	---

Notes:

* = mg/kg



Client: Clean Harbors of Chicago
Sample I.D.: Boring 3 Sample 2
Sample Type: Soil

CHAS Lab #: 90X08069-10M
Date Received: 08/09/90

Parameter	MDL*	Result*	Digestion Date	Analysis Date	Method Number and Reference
Arsenic - Total	31	ND	08/13/90	08/14/90	3050/6010(c)
Cadmium - Total	2.35	4.46	08/13/90	08/14/90	3050/6010(c)
Chromium - Total	3.13	1,320	08/13/90	08/14/90	3050/6010(c)
Lead - Total	39	300	08/13/90	08/14/90	3050/6010(c)
Mercury- Total	0.0588	0.0883	08/14/90	08/15/90	7470(c)
Selenium - Total	47	ND	08/13/90	08/14/90	3050/6010(c)
Silver- Total	1.4	ND	08/13/90	08/14/90	3005/6010(c)

Notes: ND - Below minimum detectable level (MDL)
* = mg/kg
Soil/Solid samples based on sample dry weight.

Client: Clean Harbors of Chicago
Sample ID: BORING #3, SAMPLE #2
Sample Type: Soil

CHAS Lab #: 90X08069-10M
Date Received: 08/09/90
Internal Code: SS90

Semi-Volatile Base/Neutral and Acid Extractable Organic
by EPA Method 8270 (ref. c) - System C
Extraction Date: 08/15/90
Analysis Date: 08/18/90

Base/Neutral Compounds	MDL*	Conc.*	Base/Neutral Compounds	MDL*	Conc.*
bis(2-Chloroethyl)Ether	3.3	ND	Di-n-Butylphthalate	3.3	ND
1,3-Dichlorobenzene	3.3	ND	Fluoranthene-----	3.3	TR
1,4-Dichlorobenzene-----	3.3	4.0	Pyrene-----	3.3	3.3
1,2-Dichlorobenzene-----	3.3	13	Butylbenzylphthalate	3.3	ND
bis(2-Chloroisopropyl)Ether	3.3	ND	3,3'-Dichlorobenzidine	6.7	ND
N-Nitroso-Di-n-Propylamine	3.3	ND	Benzo(a)Anthracene	3.3	ND
Hexachloroethane	3.3	ND	bis(2-Ethylhexyl)Phthalate	6.7	ND
Nitrobenzene	3.3	ND	Chrysene	3.3	ND
Isophorone	3.3	ND	Di-n-Octylphthalate	3.3	ND
bis(2-Chloroethoxy)Methane	3.3	ND	Benzo(b)Fluoranthene	3.3	ND
1,2,4-Trichlorobenzene	3.3	ND	Benzo(k)Fluoranthene	3.3	ND
Naphthalene	3.3	ND	Benzo(a)Pyrene	3.3	ND
4-Chloroaniline	3.3	ND	Indeno(1,2,3-cd)Pyrene	3.3	ND
Hexachlorobutadiene	3.3	ND	Dibenz(a,h)Anthracene	3.3	ND
2-Methylnaphthalene	3.3	ND	Benzo(g,h,i)Perylene	3.3	ND
Hexachlorocyclopentadiene	3.3	ND			
2-Chloronaphthalene	3.3	ND			
2-Nitroaniline	17	ND	Acid Compounds	MDL*	Conc.*
Dimethyl Phthalate	3.3	ND	Phenol	3.3	ND
Acenaphthylene	3.3	ND	2-Chlorophenol	3.3	ND
3-Nitroaniline	17	ND	2-Methylphenol	3.3	ND
Acenaphthene	3.3	ND	4-Methylphenol	3.3	ND
Dibenzofuran	3.3	ND	2-Nitrophenol	3.3	ND
2,4-Dinitrotoluene	3.3	ND	2,4-Dimethylphenol	3.3	ND
2,6-Dinitrotoluene	3.3	ND	2,4-Dichlorophenol	3.3	ND
Diethylphthalate	3.3	ND	4-Chloro-3-methylphenol	3.3	ND
4-Chlorophenyl-phenylether	3.3	ND	2,4,6-Trichlorophenol	17	ND
Fluorene	3.3	ND	2,4,5-Trichlorophenol	17	ND
4-Nitroaniline	17	ND	2,4-Dinitrophenol	17	ND
N-Nitrosodiphenylamine	3.3	ND	4-Nitrophenol	17	ND
4-Bromophenyl-phenylether	3.3	ND	4,6-Dinitro-2-methylphenol	17	ND
Hexachlorobenzene	3.3	ND	Pentachlorophenol	17	ND
Phenanthrene-----	3.3	4.2			
Anthracene	3.3	ND			

QA/QC Surrogate	Rec.	Range CLP
2-Fluorophenol	NAX	25 - 121X
Phenol-D5	NAX	24 - 113X
Nitrobenzene-D5	NAX	23 - 120X
2-Fluorobiphenyl	NAX	25 - 121X
2,4,6-Tribromophenol	NAX	19 - 122X
Terphenyl-D14	NAX	18 - 137X

Notes: ND = Below minimum detectable level (MDL)
* = mg/kg based on sample weight as received
TR = Trace amount present but below MDL
NA = Not applicable



Client: Clean Harbors of Chicago
Sample I.D.: Boring 3 Sample 2
Sample Type: Soil

CHAS Lab #: 90X08069-10A
Date Received: 08/09/90
Internal Code: V570

Volatile Organics - System A
by EPA Method 8240 (ref. c)

Analysis Date: 08/13/90

Parameter	MDL*	Conc.*	Parameter	MDL*	Conc.*
Priority Pollutant Compounds:			1,1,2,2-Tetrachloroethane	0.025	ND
Chloromethane	0.050	ND	Tetrachloroethane	0.025	ND
Bromomethane	0.050	ND	Toluene	0.025	ND
Vinyl Chloride	0.050	ND	Chlorobenzene	0.025	ND
Chloroethane	0.050	ND	Ethylbenzene	0.025	ND
Methylene Chloride	0.025	ND	Hazardous Substance List Compounds:		
Trichlorofluoromethane	0.025	ND	Acetone	0.100	0.10
1,1-Dichloroethene	0.025	ND	Carbon Disulfide	0.050	ND
1,1-Dichloroethane	0.025	ND	2-Butanone	0.100	ND
trans-1,2-Dichloroethene	0.025	ND	Vinyl Acetate	0.025	ND
Chloroform	0.025	ND	4-Methyl-2-Pentanone	0.025	ND
1,2-Dichloroethane	0.025	ND	2-Hexanone	0.025	ND
1,1,1-Trichloroethane	0.025	ND	Styrene	0.025	ND
Carbon Tetrachloride	0.025	ND	Total Xylenes	0.025	ND
Bromodichloromethane	0.025	ND	Additional Compounds:		
1,2-Dichloropropane	0.025	ND	Dibromomethane (EDB)	0.025	ND
cis-1,3-Dichloropropene	0.025	ND	Methyl-t-Butylether	0.050	ND
Trichloroethene	0.025	ND	1,2-Dichlorobenzene	0.025	2.5
Benzene	0.025	ND	1,3-Dichlorobenzene	0.025	ND
Dibromochloromethane	0.025	ND	1,4-Dichlorobenzene	0.025	ND
1,1,2-Trichloroethane	0.025	ND	Acrolein	0.050	ND
trans-1,3-Dichloropropene	0.025	ND	Acrylonitrile	0.050	ND
2-Chloroethylvinylether	0.050	ND			
Bromoform	0.025	ND			

Notes ND - Below minimum detectable level (MDL)
TR - Trace amount present but below MDL
* - mg/kg
Based on sample weight as received.
No additional peaks observed in sample

QA/QC Surrogate Recoveries:

d4-1,2-Dichloroethane: 88 %
d8-Toluene: 97 %
p-BFB: 106 %

Surrogate Acceptance Criteria:

Water	Soil
76-114%	70-121%
88-110%	84-138%
86-115%	59-113%



Client: Clean Harbors of Chicago
Sample ID: BORING #3 SAMPLE #2

CHAS Lab #: 90X08069-10A
Date Received: 08/09/90

TENTATIVELY IDENTIFIED COMPOUNDS

<u>CAS Number</u>	<u>Compound</u>	<u>Fraction</u>	<u>Estimated Concentration*</u>
---	None Found	VOA	---

Notes:

* - mg/kg



Client: Clean Harbors of Chicago
Sample I.D.: Boring 3 Sample 3
Sample Type: Soil

CHAS Lab #: 90X08069-11M
Date Received: 08/09/90

Parameter	MDL*	Result*	Digestion Date	Analysis Date	Method Number and Reference
Arsenic - Total	32	ND	08/13/90	08/14/90	3050/6010(c)
Cadmium - Total	2.39	2.55	08/13/90	08/14/90	3050/6010(c)
Chromium - Total	3.18	380	08/13/90	08/14/90	3050/6010(c)
Lead - Total	40	180	08/13/90	08/14/90	3050/6010(c)
Mercury- Total	0.0614	0.0614	08/14/90	08/15/90	7470(c)
Selenium - Total	48	ND	08/13/90	08/14/90	3050/6010(c)
Silver- Total	1.5	ND	08/13/90	08/14/90	3005/6010(c)

Notes: ND - Below minimum detectable level (MDL)
* = mg/kg
Soil/Solid samples based on sample dry weight.



Client: Clean Harbors of Chicago
 Sample ID: BORING #3, SAMPLE #3
 Sample Type: Soil

CHAS Lab #: 90X08069-11M
 Date Received: 08/09/90
 Internal Code: SS90

Semi-Volatile Base/Neutral and Acid Extractable Organic
 by EPA Method 8270 (ref. c) - System C
 Extraction Date: 08/15/90
 Analysis Date: 08/18/90

Base/Neutral Compounds	MDL*	Conc.*	Base/Neutral Compounds	MDL*	Conc.*
bis(2-Chloroethyl)Ether	3.3	ND	Di-n-Butylphthalate	3.3	ND
1,3-Dichlorobenzene	3.3	ND	Fluoranthene	3.3	ND
1,4-Dichlorobenzene	3.3	ND	Pyrene	3.3	ND
1,2-Dichlorobenzene-----	3.3	8.0	Butylbenzylphthalate	3.3	ND
bis(2-Chloroisopropyl)Ether	3.3	ND	3,3'-Dichlorobenzidine	6.7	ND
N-Nitroso-Di-n-Propylamine	3.3	ND	Benzo(a)Anthracene	3.3	ND
Hexachloroethane	3.3	ND	bis(2-Ethylhexyl)Phthalate	6.7	ND
Nitrobenzene	3.3	ND	Chrysene	3.3	ND
Isophorone	3.3	ND	Di-n-Octylphthalate	3.3	ND
bis(2-Chloroethoxy)Methane	3.3	ND	Benzo(b)Fluoranthene	3.3	ND
1,2,4-Trichlorobenzene	3.3	ND	Benzo(k)Fluoranthene	3.3	ND
Naphthalene	3.3	ND	Benzo(a)Pyrene	3.3	ND
4-Chloroaniline	3.3	ND	Indeno(1,2,3-cd)Pyrene	3.3	ND
Hexachlorobutadiene	3.3	ND	Dibenz(a,h)Anthracene	3.3	ND
2-Methylnaphthalene	3.3	ND	Benzo(g,h,i)Perylene	3.3	ND
Hexachlorocyclopentadiene	3.3	ND			
2-Chloronaphthalene	3.3	ND			
2-Nitroaniline	17	ND			
Dimethyl Phthalate	3.3	ND			
Acenaphthylene	3.3	ND			
3-Nitroaniline	17	ND			
Acenaphthene	3.3	ND			
Dibenzofuran	3.3	ND			
2,4-Dinitrotoluene	3.3	ND			
2,6-Dinitrotoluene	3.3	ND			
Diethylphthalate	3.3	ND			
4-Chlorophenyl-phenylether	3.3	ND			
Fluorene	3.3	ND			
4-Nitroaniline	17	ND			
N-Nitrosodiphenylamine	3.3	ND			
4-Bromophenyl-phenylether	3.3	ND			
Hexachlorobenzene-----	3.3	8.4			
Phenanthrene	3.3	ND			
Anthracene	3.3	ND			

Acid Compounds	MDL*	Conc.*
Phenol-----	3.3	8.7
2-Chlorophenol	3.3	ND
2-Methylphenol	3.3	ND
4-Methylphenol	3.3	ND
2-Nitrophenol	3.3	ND
2,4-Dimethylphenol	3.3	ND
2,4-Dichlorophenol	3.3	ND
4-Chloro-3-methylphenol	3.3	ND
2,4,6-Trichlorophenol	17	ND
2,4,5-Trichlorophenol	17	ND
2,4-Dinitrophenol	17	ND
4-Nitrophenol	17	ND
4,6-Dinitro-2-methylphenol	17	ND
Pentachlorophenol	17	ND

QA/QC Surrogate	Rec.	Range CLP
2-Fluorophenol	NAZ	25 - 121X
Phenol-D5	NAZ	24 - 113X
Nitrobenzene-D5	NAZ	23 - 120X
2-Fluorobiphenyl	NAZ	25 - 121X
2,4,6-Tribromophenol	NAZ	19 - 122X
Terphenyl-D14	NAZ	18 - 137X

Notes: ND = Below minimum detectable level (MDL)
 * = mg/kg based on sample weight as received
 NA = Not applicable



Client: Clean Harbors of Chicago
Sample I.D.: Boring 3 Sample 3
Sample Type: Soil

CHAS Lab #: 90X08069-11A
Date Received: 08/09/90
Internal Code: VS70

Volatile Organics - System A
by EPA Method 8240 (ref. c)

Analysis Date: 08/13/90

Parameter	MDL*	Conc.*	Parameter	MDL*	Conc.*
Priority Pollutant Compounds:			1,1,2,2-Tetrachloroethane	0.025	ND
Chloromethane	0.050	ND	Tetrachloroethene	0.025	ND
Bromomethane	0.050	ND	Toluene	0.025	TR
Vinyl Chloride	0.050	ND	Chlorobenzene	0.025	ND
Chloroethane	0.050	ND	Ethylbenzene	0.025	TR
Methylene Chloride	0.025	ND	Hazardous Substance List Compounds:		
Trichlorofluoromethane	0.025	ND	Acetone	0.100	0.28
1,1-Dichloroethene	0.025	ND	Carbon Disulfide	0.050	ND
1,1-Dichloroethane	0.025	ND	2-Butanone	0.100	ND
trans-1,2-Dichloroethene	0.025	ND	Vinyl Acetate	0.025	ND
Chloroform	0.025	ND	4-Methyl-2-Pentanone	0.025	TR
1,2-Dichloroethane	0.025	ND	2-Hexanone	0.025	ND
1,1,1-Trichloroethane	0.025	ND	Styrene	0.025	ND
Carbon Tetrachloride	0.025	ND	Total Xylenes	0.025	ND
Bromodichloromethane	0.025	ND	Additional Compounds:		
1,2-Dichloropropane	0.025	ND	Dibromoethane (EDB)	0.025	ND
cis-1,3-Dichloropropene	0.025	ND	Methyl-t-Butylether	0.050	ND
Trichloroethane	0.025	ND	1,2-Dichlorobenzene	0.025	1.3
Benzene	0.025	0.062	1,3-Dichlorobenzene	0.025	ND
Dibromochloromethane	0.025	ND	1,4-Dichlorobenzene	0.025	ND
1,1,2-Trichloroethane	0.025	ND	Acrolein	0.050	ND
trans-1,3-Dichloropropene	0.025	ND	Acrylonitrile	0.050	ND
2-Chloroethylvinylether	0.050	ND			
Bromoform	0.025	ND			

Notes ND - Below minimum detectable level (MDL)
TR - Trace amount present but below MDL
* - mg/kg
Based on sample weight as received.
No additional peaks observed in sample

QA/QC Surrogate Recoveries:

d4-1,2-Dichloroethane: 89 %
d8-Toluene: 93 %
p-BFB: 106 %

Surrogate Acceptance Criteria:

Water	Soil
76-114%	70-121%
88-110%	84-138%
86-115%	59-113%



Client: Clean Harbors of Chicago
Sample ID: BORING #3 SAMPLE #3

CHAS Lab #: 90X08069-11A
Date Received: 08/09/90

TENTATIVELY IDENTIFIED COMPOUNDS

<u>CAS Number</u>	<u>Compound</u>	<u>Fraction</u>	<u>Estimated Concentration*</u>
---	None Found	VOA	---

Notes:

* = ng/kg



Client: Clean Harbors of Chicago
Sample I.D.: Boring 3 Sample 4
Sample Type: Soil

CHAS Lab #: 90X08069-12M
Date Received: 08/09/90

Parameter	MDL*	Result*	Digestion Date	Analysis Date	Method Number and Reference
Arsenic - Total	34	ND	08/13/90	08/14/90	3050/6010(c)
Cadmium - Total	2.54	6.94	08/13/90	08/14/90	3050/6010(c)
Chromium - Total	3.39	370	08/13/90	08/14/90	3050/6010(c)
Lead - Total	42	1,900	08/13/90	08/14/90	3050/6010(c)
Mercury- Total	0.0764	0.4582	08/14/90	08/15/90	7470(c)
Selenium - Total	51	ND	08/13/90	08/14/90	3050/6010(c)
Silver- Total	1.8	ND	08/13/90	08/14/90	3005/6010(c)

Notes: ND - Below minimum detectable level (MDL)
* = mg/kg
Soil/Solid samples based on sample dry weight.



Client: Clean Harbors of Chicago
Sample I.D.: Boring 3 Sample 4
Sample Type: Soil

CHAS Lab #: 90X08069-12
Date Received: 08/09/90
Internal Code: VS7'

Volatile Organics - System A
by EPA Method 8240 (ref. c)

Analysis Date: 08/11/90

Parameter	MDL*	Conc.*	Parameter	MDL*	Conc.*
Priority Pollutant Compounds:			1,1,2,2-Tetrachloroethane	0.025	ND
Chloromethane	0.050	ND	Tetrachloroethene	0.025	0.37
Bromomethane	0.050	ND	Toluene	0.025	4.0
Vinyl Chloride	0.050	ND	Chlorobenzene	0.025	ND
Chloroethane	0.050	ND	Ethylbenzene	0.025	0.81
Methylene Chloride	0.025	0.59	Hazardous Substance List Compounds:		
Trichlorofluoromethane	0.025	ND	Acetone	0.100	2.7
1,1-Dichloroethene	0.025	ND	Carbon Disulfide	0.050	ND
1,1-Dichloroethane	0.025	0.026	2-Butanone	0.100	0
trans-1,2-Dichloroethene	0.025	ND	Vinyl Acetate	0.025	ND
Chloroform	0.025	0.14	4-Methyl-2-Pentanone	0.025	ND
1,2-Dichloroethane	0.025	0.35	2-Hexanone	0.025	ND
1,1,1-Trichloroethane	0.025	0.19	Styrene	0.025	ND
Carbon Tetrachloride	0.025	ND	Total Xylenes	0.025	5.0
Bromodichloromethane	0.025	ND	Additional Compounds:		
1,2-Dichloropropane	0.025	ND	Dibromoethane (EDB)	0.025	ND
cis-1,3-Dichloropropene	0.025	ND	Methyl-t-Butylether	0.050	ND
Trichloroethene	0.025	2.9	1,2-Dichlorobenzene	0.025	ND
Benzene	0.025	0.32	1,3-Dichlorobenzene	0.025	ND
Dibromochloromethane	0.025	ND	1,4-Dichlorobenzene	0.025	0.040
1,1,2-Trichloroethane	0.025	ND	Acrolein	0.050	ND
trans-1,3-Dichloropropene	0.025	ND	Acrylonitrile	0.050	ND
2-Chloroethylvinylether	0.050	ND			
Bromoform	0.025	ND			

Notes ND - Below minimum detectable level (MDL)
TR - Trace amount present but below MDL
* - mg/kg
Based on sample weight as received.
Additional compounds observed in sample

QA/QC Surrogate Recoveries:

d4-1,2-Dichloroethane: 91 %
d8-Toluene: 97 %
p-BFB: 100 %

Surrogate Acceptance Criteria:

Water	Soil
76-114%	70-121%
88-110%	84-138%
86-115%	59-113%



Client: Clean Harbors of Chicago
Sample ID: BORING #3 SAMPLE #4

CHAS Lab #: 90X08069-12A
Date Received: 08/09/90

TENTATIVELY IDENTIFIED COMPOUNDS

<u>CAS Number</u>	<u>Compound</u>	<u>Fraction</u>	<u>Estimated Concentration*</u>
96-37-7	methyl-Cyclopentane	VOA	0.055
5536-98-1	1-propyl-Aziridine	VOA	0.095
---	Dimethyl Pentane Isomer	VOA	0.150
589-34-4	3-methyl-Hexane	VOA	0.270
106-35-4	3-Heptanone	VOA	0.030
108-86-1	Bromobenzene	VOA	0.110
---	unkown compound	VOA	0.040

Notes:

* = ng/kg



Client: Clean Harbors of Chicago
Sample I.D.: Boring 4 Sample 1
Sample Type: Soil

CHAS Lab #: 90X08069-13M
Date Received: 08/09/90

Parameter	MDL*	Result*	Digestion Date	Analysis Date	Method Number and Reference
Arsenic - Total	36	ND	08/13/90	08/14/90	3050/6010(c)
Cadmium - Total	2.73	2.73	08/13/90	08/14/90	3050/6010(c)
Chromium - Total	3.64	473	08/13/90	08/14/90	3050/6010(c)
Lead - Total	45	180	08/13/90	08/14/90	3050/6010(c)
Mercury- Total	0.0741	0.0741	08/14/90	08/15/90	7470(c)
Selenium - Total	55	ND	08/13/90	08/14/90	3050/6010
Silver- Total	1.8	ND	08/13/90	08/14/90	3005/6010(c)

Notes: ND - Below minimum detectable level (MDL)
* = mg/kg
Soil/Solid samples based on sample dry weight.



Client: Clean Harbors of Chicago
Sample N.D.: Boring 4 Sample 1
Sample Type: Soil

CHAS Lab #: 90X08069-13
Date Received: 08/09/90
Internal Code: VS70

Volatile Organics - System A
by EPA Method 8240 (ref. c)

Analysis Date: 08/11/90

Parameter	MDL*	Conc.*	Parameter	MDL*	Conc.*
Priority Pollutant Compounds:			1,1,2,2-Tetrachloroethane	0.005	ND
Chloromethane	0.010	ND	Tetrachloroethene	0.005	ND
Bromomethane	0.010	ND	Toluene	0.005	0.22
Vinyl Chloride	0.010	ND	Chlorobenzene	0.005	0.054
Chloroethane	0.010	ND	Ethylbenzene	0.005	0.094
Methylene Chloride	0.005	TR	Hazardous Substance List Compounds:		
Trichlorofluoromethane	0.005	ND	Acetone	0.020	0.21
1,1-Dichloroethene	0.005	ND	Carbon Disulfide	0.010	ND
1,1-Dichloroethane	0.005	ND	2-Butanone	0.020	0.040
trans-1,2-Dichloroethene	0.005	ND	Vinyl Acetate	0.005	ND
Chloroform	0.005	ND	4-Methyl-2-Pentanone	0.005	ND
1,2-Dichloroethane	0.005	ND	2-Hexanone	0.005	ND
1,1,1-Trichloroethane	0.005	ND	Styrene	0.005	ND
Carbon Tetrachloride	0.005	ND	Total Xylenes	0.005	0.44
Bromodichloromethane	0.005	ND	Additional Compounds:		
1,2-Dichloropropane	0.005	ND	Dibromoethane (EDB)	0.005	ND
cis-1,3-Dichloropropene	0.005	ND	Methyl-t-Butylether	0.010	ND
Trichloroethene	0.005	0.043	1,2-Dichlorobenzene	0.005	ND
Benzene	0.005	0.011	1,3-Dichlorobenzene	0.005	ND
Dibromochloromethane	0.005	ND	1,4-Dichlorobenzene	0.005	ND
1,1,2-Trichloroethane	0.005	ND	Acrolein	0.010	ND
trans-1,3-Dichloropropene	0.005	ND	Acrylonitrile	0.010	ND
2-Chloroethylvinylether	0.010	ND			
Bromoform	0.005	ND			

Notes ND - Below minimum detectable level (MDL)
TR - Trace amount present but below MDL
* - mg/kg
Based on sample weight as received.
Additional compounds observed in sample

QA/QC Surrogate Recoveries:

d4-1,2-Dichloroethane: 82 %
d8-Toluene: 92 %
p-BFB: 91 %

Surrogate Acceptance Criteria:

Water	Soil
76-114%	70-121%
88-110%	84-138%
86-115%	59-113%



Client: Clean Harbors of Chicago
Sample ID: BORING #4 SAMPLE #1

CHAS Lab #: 90X08069-13A
Date Received: 08/09/90

TENTATIVELY IDENTIFIED COMPOUNDS

<u>CAS Number</u>	<u>Compound</u>	<u>Fraction</u>	<u>Estimated Concentration*</u>
96-37-7	Methyl-Cyclopentane	VOA	0.010
589-34-4	3-methyl-Hexane	VOA	0.057

Notes:

* = ng/kg



Client: Clean Harbors of Chicago
Sample I.D.: Boring 4 Sample 2
Sample Type: Soil

CHAS Lab #: 90X08069-14M
Date Received: 08/09/90

Parameter	MDL*	Result*	Digestion Date	Analysis Date	Method Number and Reference
Arsenic - Total	25	ND	08/13/90	08/14/90	3050/6010(c)
Cadmium - Total	1.88	ND	08/13/90	08/14/90	3050/6010(c)
Chromium - Total	2.51	234	08/13/90	08/14/90	3050/6010(c)
Lead - Total	31	260	08/13/90	08/14/90	3050/6010(c)
Mercury- Total	0.0674	ND	08/14/90	08/15/90	7470(c)
Selenium - Total	38	53	08/13/90	08/14/90	3050/6010(c)
Silver- Total	1.5	ND	08/13/90	08/14/90	3005/6010(c)

Notes: ND - Below minimum detectable level (MDL)
* = mg/kg
Soil/Solid samples based on sample dry weight.

Client: Clean Harbors of Chicago
Sample I.D.: Boring 4 Sample 2
Sample Type: Soil

CHAS Lab #: 90X08069-14
Date Received: 08/09/90
Internal Code: VS70

Volatile Organics - System A
by EPA Method 8240 (ref. c)

Analysis Date: 08/11/90

Parameter	MDL*	Conc.*	Parameter	MDL*	Conc.*
Priority Pollutant Compounds:			1,1,2,2-Tetrachloroethane	0.005	ND
Chloromethane	0.010	ND	Tetrachloroethane	0.005	ND
Bromomethane	0.010	ND	Toluene	0.005	0.085
Vinyl Chloride	0.010	ND	Chlorobenzene	0.005	ND
Chloroethane	0.010	ND	Ethylbenzene	0.005	8
Methylene Chloride	0.005	TR	Hazardous Substance List Compounds:		
Trichlorofluoromethane	0.005	ND	Acetone	0.020	0.094
1,1-Dichloroethene	0.005	ND	Carbon Disulfide	0.010	ND
1,1-Dichloroethane	0.005	ND	2-Butanone	0.020	ND
trans-1,2-Dichloroethene	0.005	ND	Vinyl Acetate	0.005	NL
Chloroform	0.005	ND	4-Methyl-2-Pentanone	0.005	TR
1,2-Dichloroethane	0.005	ND	2-Hexanone	0.005	ND
1,1,1-Trichloroethane	0.005	ND	Styrene	0.005	ND
Carbon Tetrachloride	0.005	ND	Total Xylenes	0.005	0.042
Bromodichloromethane	0.005	ND	Additional Compounds:		
1,2-Dichloropropane	0.005	ND	Dibromoethane (EDB)	0.005	ND
cis-1,3-Dichloropropene	0.005	ND	Methyl-t-Butylether	0.010	ND
Trichloroethane	0.005	ND	1,2-Dichlorobenzene	0.005	ND
Benzene	0.005	0.29	1,3-Dichlorobenzene	0.005	ND
Dibromochloromethane	0.005	ND	1,4-Dichlorobenzene	0.005	ND
1,1,2-Trichloroethane	0.005	ND	Acrolein	0.010	ND
trans-1,3-Dichloropropene	0.005	ND	Acrylonitrile	0.010	ND
2-Chloroethylvinylether	0.010	ND			
Bromoform	0.005	ND			

Notes ND - Below minimum detectable level (MDL)
TR - Trace amount present but below MDL
* - mg/kg
Based on sample weight as received.
Additional compounds observed in sample

QA/QC Surrogate Recoveries:

d4-1,2-Dichloroethane: 83 %
d8-Toluene: 87 %
p-BFB: 83 %

Surrogate Acceptance Criteria:

Water	Soil
76-114%	70-121%
88-110%	84-138%
86-115%	59-113%



Client: Clean Harbors of Chicago
Sample ID: BORING #4 SAMPLE #2

CHAS Lab #: 90X08069-14A
Date Received: 08/09/90

TENTATIVELY IDENTIFIED COMPOUNDS

<u>CAS Number</u>	<u>Compound</u>	<u>Fraction</u>	<u>Estimated Concentration*</u>
96-37-7	Methyl-Cyclopentane	VOA	0.005
75-55-8	2-methyl-Aziridine	VOA	0.005
589-34-4	3-methyl-Hexane	VOA	0.012
---	unknown compound	VOA	0.013
---	unknown compound	VOA	0.011
---	chloro-Nitrobenzene isomer	VOA	3.1

Notes:

* = ng/kg



Client: Clean Harbors of Chicago
Sample I.D.: Boring 4 Sample 3
Sample Type: Soil

CHAS Lab #: 90X08069-15M
Date Received: 08/09/90

Parameter	MDL*	Result*	Digestion Date	Analysis Date	Method Number and Reference
Arsenic - Total	35	ND	08/13/90	08/14/90	3050/6010(c)
Cadmium - Total	2.63	ND	08/13/90	08/14/90	3050/6010(c)
Chromium - Total	3.51	306	08/13/90	08/14/90	3050/6010(c)
Lead - Total	44	190	08/13/90	08/14/90	3050/6010(c)
Mercury- Total	0.0721	0.0721	08/14/90	08/15/90	7470(c)
Selenium - Total	53	ND	08/13/90	08/14/90	3050/6010(c)
Silver- Total	1.6	ND	08/13/90	08/14/90	3005/6010(c)

Notes: ND - Below minimum detectable level (MDL)
* = mg/kg
Soil/Solid samples based on sample dry weight.



Client: Clean Harbors of Chicago
Sample ID: BORING #4 SAMPLE #3

CHAS Lab #: 90X08069-15A
Date Received: 08/09/90

TENTATIVELY IDENTIFIED COMPOUNDS

<u>CAS Number</u>	<u>Compound</u>	<u>Fraction</u>	<u>Estimated Concentration*</u>
---	None Found	VOA	---

Notes:

* = ng/kg



Client: Clean Harbors of Chicago
Sample I.D.: Boring 4 Sample 4
Sample Type: Soil

CHAS Lab #: 90X08069-16M
Date Received: 08/09/90

Parameter	MDL*	Result*	Digestion Date	Analysis Date	Method Number and Reference
Arsenic - Total	33	ND	08/13/90	08/14/90	3050/6010(c)
Cadmium - Total	2.47	6.49	08/13/90	08/14/90	3050/6010(c)
Chromium - Total	3.29	764	08/13/90	08/14/90	3050/6010(c)
Lead - Total	41	640	08/13/90	08/14/90	3050/6010(c)
Mercury- Total	0.0661	0.2915	08/14/90	08/15/90	7470(c)
Selenium - Total	49	ND	08/13/90	08/14/90	3050/6010(c)
Silver- Total	1.8	ND	08/13/90	08/14/90	3005/6010(c)

Notes: ND ~ Below minimum detectable level (MDL)
* = mg/kg
Soil/Solid samples based on sample dry weight.



Client: Clean Harbors of Chicago
Sample I.D.: Boring 4 Sample 4
Sample Type: Soil

CHAS Lab #: 90X08069-16A
Date Received: 08/09/90
Internal Code: VS70

Volatile Organics - System A
by EPA Method 8240 (ref. c)

Analysis Date: 08/13/90

Parameter	MDL*	Conc.*	Parameter	MDL*	Conc.*
Priority Pollutant Compounds:			1,1,2,2-Tetrachloroethane	0.005	ND
Chloromethane	0.010	ND	Tetrachloroethene	0.005	0.009
Bromomethane	0.010	ND	Toluene	0.005	0.009
Vinyl Chloride	0.010	ND	Chlorobenzene	0.005	ND
Chloroethane	0.010	ND	Ethylbenzene	0.005	ND
Methylene Chloride	0.005	ND	Hazardous Substance List Compounds:		
Trichlorofluoromethane	0.005	ND	Acetone	0.020	0.066
1,1-Dichloroethene	0.005	ND	Carbon Disulfide	0.010	ND
1,1-Dichloroethane	0.005	ND	2-Butanone	0.020	ND
trans-1,2-Dichloroethene	0.005	ND	Vinyl Acetate	0.005	ND
Chloroform	0.005	ND	4-Methyl-2-Pentanone	0.005	ND
1,2-Dichloroethane	0.005	0.005	2-Hexanone	0.005	ND
1,1,1-Trichloroethane	0.005	ND	Styrene	0.005	ND
Carbon Tetrachloride	0.005	ND	Total Xylenes	0.005	0.032
Bromodichloromethane	0.005	ND	Additional Compounds:		
1,2-Dichloropropane	0.005	ND	Dibromoethane (EDB)	0.005	ND
cis-1,3-Dichloropropene	0.005	ND	Methyl-t-Butylether	0.010	ND
Trichloroethene	0.005	0.046	1,2-Dichlorobenzene	0.005	0.039
Benzene	0.005	TR	1,3-Dichlorobenzene	0.005	ND
Dibromochloromethane	0.005	ND	1,4-Dichlorobenzene	0.005	ND
1,1,2-Trichloroethane	0.005	ND	Acrolein	0.010	ND
trans-1,3-Dichloropropene	0.005	ND	Acrylonitrile	0.010	ND
2-Chloroethylvinylether	0.010	ND			
Bromoform	0.005	ND			

Notes ND - Below minimum detectable level (MDL)
TR - Trace amount present but below MDL
* = mg/kg
Based on sample weight as received.
No additional peaks observed in sample

QA/QC	Surrogate Recoveries:	Surrogate Acceptance Criteria:	
		Water	Soil
	d4-1,2-Dichloroethane: 102 %	76-114%	70-121%
	d8-Toluene: 98 %	88-110%	84-138%
	p-HFB: 99 %	86-115%	59-113%



Client: Clean Harbors of Chicago
Sample ID: BORING #4 SAMPLE #4

CHAS Lab #: 90X08069-16A
Date Received: 08/09/90

TENTATIVELY IDENTIFIED COMPOUNDS

<u>CAS Number</u>	<u>Compound</u>	<u>Fraction</u>	<u>Estimated Concentration*</u>
---	None Found	VOA	---

Notes:

* = mg/kg



ENVIRONMENTAL SERVICES COMPANIES
11800 S. STONY ISLAND AVENUE
CHICAGO, IL 60617
(312) 646-6202

September 9, 1990

Mr. Mark Schollenberger
Permit Section
Illinois Environmental Protection Agency
Division of Land Pollution Control
P.O. Box 19276
2200 Churchhill Road
Springfield, IL 62794-9276

Dear Mark:

Enclosed please find the TCLP analysis and remaining semi-volatile analysis for the soil borings associated with the outside drum storage building.

If you have any questions please call me at 312 646-6202.

Sincerely,

Anthony R. Pongonis
Vice President

Enclosure

APR:lh

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SEP 10 1990

IEPA-DLPC



ANALYTICAL SERVICES, INC.
BEDFORD DIVISION
213 BURLINGTON ROAD, BEDFORD, MA 01730
(617) 275-6111

FAX # 312-6466

To: Jim Laubsted, Tony Pongoni's
From: Rick Ravenelle

Date: 9/5/90

Twenty-three pages to follow.

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Client: Clean Harbors of Chicago
Sample I.D.: Boring 3 Sample 2
Sample Type: Soil

CHAS Lab #: 90X08069-10U
Date Received: 08/09/90

Parameter	MDL*	Result*	Digestion Date	Analysis Date	Method Number and Reference
Arsenic - TCLP	0.04	ND	08/30/90	08/31/90	3010/6010(c)
Barium - TCLP	0.002	0.390	08/30/90	08/31/90	3010/6010(c)
Cadmium - TCLP	0.003	ND	08/30/90	08/31/90	3010/6010(c)
Chromium - TCLP	0.004	ND	08/30/90	08/31/90	3010/6010(c)
Lead - TCLP	0.05	ND	08/30/90	08/31/90	3010/6010(c)
Mercury - TCLP	0.0003	ND	08/30/90	08/31/90	7470(c)
Selenium - TCLP	0.06	ND	08/30/90	08/31/90	3010/6010(c)
Silver - TCLP	0.02	ND	08/30/90	08/31/90	3005/6010(c)

Sample extracted on 08/28/90

Notes: ND = Below minimum detectable level (MDL)

* = mg/l

Soil/solid samples based on sample dry weight.

TCLP = Toxicity Characteristic Leaching Procedure as described in the Federal Register, Volume 51, No. 216.

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IEPA-DLPC



Client: Clean Harbors of Chicago
Sample I.D.: Boring 3 Sample 4
Sample Type: Soil

CHAS Lab #: 90X08069-12U
Date Received: 08/09/90

Parameter	MDL*	Result*	Digestion Date	Analysis Date	Method Number and Reference
Arsenic - TCLP	00.04	ND	08/30/90	08/31/90	3010/6010(c)
Barium - TCLP	0.002	0.618	08/30/90	08/31/90	3010/6010(c)
Cadmium - TCLP	0.003	0.009	08/30/90	08/31/90	3010/6010(c)
Chromium - TCLP	0.004	0.015	08/30/90	08/31/90	3010/6010(c)
Lead - TCLP	0.05	ND	08/30/90	08/31/90	3010/6010(c)
Mercury - TCLP	0.0003	ND	08/30/90	08/31/90	7470(c)
Selenium - TCLP	0.06	0.08	08/30/90	08/31/90	3010/6010(c)
Silver - TCLP	0.02	ND	08/30/90	08/31/90	3005/6010(c)

Sample extracted on 08/28/90

Notes: ND - Below minimum detectable level (MDL)
* - mg/l
Soil/solid samples based on sample dry weight.

TCLP - Toxicity Characteristic Leaching Procedure as described in the Federal Register, Volume 51, No. 216.



Client: Clean Harbors of Chicago
Sample I.D.: Boring 3 Sample 3
Sample Type: Soil

CHAS Lab #: 90X08069-11U
Date Received: 08/09/90

Parameter	MDL*	Result*	Digestion Date	Analysis Date	Method Number and Reference
Arsenic - TCLP	0.04	ND	08/30/90	08/31/90	3010/6010(c)
Barium - TCLP	0.002	0.414	08/30/90	08/31/90	3010/6010(c)
Cadmium - TCLP	0.003	0.003	08/30/90	08/31/90	3010/6010(c)
Chromium - TCLP	0.004	ND	08/30/90	08/31/90	3010/6010(c)
Lead - TCLP	0.05	ND	08/30/90	08/31/90	3010/6010(c)
Mercury - TCLP	0.0003	ND	08/30/90	08/31/90	7470(c)
Selenium - TCLP	0.06	0.07	08/30/90	08/31/90	3010/6010(c)
Silver - TCLP	0.02	ND	08/30/90	08/31/90	3005/6010(c)

Sample extracted on 08/28/90

Notes: ND - Below minimum detectable level (MDL)
* - mg/l
Soil/solid samples based on sample dry weight.

TCLP - Toxicity Characteristic Leaching Procedure as described in the Federal Register, Volume 51, No. 216.



Client: Clean Harbors of Chicago
Sample I.D.: Boring 2 Sample 1
Sample Type: Soil

CHAS Lab #: 90X08069-05U
Date Received: 08/09/90

Parameter	MDL*	Result*	Digestion Date	Analysis Date	Method Number and Reference
Arsenic - TCLP	0.04	ND	08/29/90	08/31/90	3010/6010(c)
Barium - TCLP	0.002	0.492	08/29/90	08/31/90	3010/6010(c)
Cadmium - TCLP	0.003	ND	08/29/90	08/31/90	3010/6010(c)
Chromium - TCLP	0.004	0.011	08/29/90	08/31/90	3010/6010(c)
Lead - TCLP	0.05	ND	08/29/90	08/31/90	3010/6010(c)
Mercury - TCLP	0.0003	ND	08/30/90	08/31/90	7470(c)
Selenium - TCLP	0.06	ND	08/29/90	08/31/90	3010/6010(c)
Silver - TCLP	0.02	ND	08/29/90	08/31/90	3005/6010(c)

Sample extracted on 08/27/90

Notes: ND - Below minimum detectable level (MDL)
* - mg/l
Soil/solid samples based on sample dry weight.

TCLP - Toxicity Characteristic Leaching Procedure as described in the Federal Register,
Volume 51, No. 216.



Client: Clean Harbors of Chicago
Sample I.D.: Boring 2 Sample 3
Sample Type: Soil

CHAS Lab #: 90X08069-07U
Date Received: 08/09/90

Parameter	MDL*	Result*	Digestion Date	Analysis Date	Method Number and Reference
Arsenic - TCLP	0.04	ND	08/29/90	08/31/90	3010/6010(c)
Barium - TCLP	0.002	0.466	08/29/90	08/31/90	3010/6010(c)
Cadmium - TCLP	0.003	ND	08/29/90	08/31/90	3010/6010(c)
Chromium - TCLP	0.004	0.007	08/29/90	08/31/90	3010/6010(c)
Lead - TCLP	0.05	ND	08/29/90	08/31/90	3010/6010(c)
Mercury - TCLP	0.0003	ND	08/30/90	08/31/90	7470(c)
Selenium - TCLP	0.06	ND	08/29/90	08/31/90	3010/6010(c)
Silver - TCLP	0.02	ND	08/29/90	08/31/90	3005/6010(c)

Sample extracted on 08/28/90

Notes: ND - Below minimum detectable level (MDL)
* = mg/l
Soil/solid samples based on sample dry weight.

TCLP - Toxicity Characteristic Leaching Procedure as described in the Federal Register, Volume 51, No. 216.



Client: Clean Harbors of Chicago
Sample I.D.: Boring 1 Sample 4
Sample Type: Soil

CHAS Lab #: 90X08069-04U
Date Received: 08/09/90

Parameter	MDL*	Result*	Digestion Date	Analysis Date	Method Number and Reference
Arsenic - TCLP	0.04	ND	08/29/90	08/31/90	3010/6010(c)
Barium - TCLP	0.002	0.467	08/29/90	08/31/90	3010/6010(c)
Cadmium - TCLP	0.003	ND	08/29/90	08/31/90	3010/6010(c)
Chromium - TCLP	0.004	ND	08/29/90	08/31/90	3010/6010(c)
Lead - TCLP	0.05	ND	08/29/90	08/31/90	3010/6010(c)
Mercury - TCLP	0.0003	ND	08/30/90	08/31/90	7470(c)
Selenium - TCLP	0.06	0.07	08/29/90	08/31/90	3010/6010(c)
Silver - TCLP	0.02	ND	08/29/90	08/31/90	3005/6010(c)

Sample extracted on 08/28/90

Notes: ND - Below minimum detectable level (MDL)
* - mg/l
Soil/solid samples based on sample dry weight.

TCLP - Toxicity Characteristic Leaching Procedure as described in the Federal Register, Volume 51, No. 216.



Client: Clean Harbors of Chicago
 Sample ID: BORING #4, SAMPLE #3
 Sample Type: Soil

CHAS Lab #: 90X08069-15M
 Date Received: 08/09/90
 Internal Code: SS90

Semi-Volatile Base/Neutral and Acid Extractable Organic
 by EPA Method 8270 (ref. c) - System C
 Extraction Date: 08/16/90
 Analysis Date: 08/24/90

Base/Neutral Compounds	MDL*	Conc.*	Base/Neutral Compounds	MDL*	Conc.*
bis(2-Chloroethyl)Ether	3.3	ND	Di-n-Butylphthalate	3.3	ND
1,3-Dichlorobenzene	3.3	ND	Fluoranthene	3.3	ND
1,4-Dichlorobenzene	3.3	ND	Pyrene	3.3	ND
1,2-Dichlorobenzene	3.3	ND	Butylbenzylphthalate	3.3	ND
bis(2-Chloroisopropyl)Ether	3.3	ND	3,3'-Dichlorobenzidine	6.7	ND
N-Nitroso-Di-n-Propylamine	3.3	ND	Benzo(a)Anthracene	3.3	ND
Hexachloroethane	3.3	ND	bis(2-Ethylhexyl)Phthalate	6.7	ND
Nitrobenzene	3.3	ND	Chrysene	3.3	ND
Isophorone	3.3	ND	Di-n-Octylphthalate	3.3	ND
bis(2-Chloroethoxy)Methane	3.3	ND	Benzo(b)Fluoranthene	3.3	ND
1,2,4-Trichlorobenzene	3.3	ND	Benzo(k)Fluoranthene	3.3	ND
Naphthalene	3.3	ND	Benzo(a)Pyrene	3.3	ND
4-Chloroaniline	3.3	ND	Indeno(1,2,3-cd)Pyrene	3.3	ND
Hexachlorobutadiene	3.3	ND	Dibenz(a,h)Anthracene	3.3	ND
2-Methylnaphthalene	3.3	ND	Benzo(g,h,i)Perylene	3.3	ND
Hexachlorocyclopentadiene	3.3	ND			
2-Chloronaphthalene	3.3	ND			
2-Nitroaniline	17	ND	Acid Compounds	MDL*	Conc.*
Dimethyl Phthalate	3.3	ND	Phenol-----	3.3	TR
Acenaphthylene	3.3	ND	2-Chlorophenol	3.3	ND
3-Nitroaniline	17	ND	2-Methylphenol	3.3	ND
Acenaphthene	3.3	ND	4-Methylphenol	3.3	ND
Dibenzofuran	3.3	ND	2-Nitrophenol	3.3	ND
2,4-Dinitrotoluene	3.3	ND	2,4-Dimethylphenol	3.3	ND
2,6-Dinitrotoluene	3.3	ND	2,4-Dichlorophenol	3.3	ND
Diethylphthalate	3.3	ND	4-Chloro-3-methylphenol	3.3	ND
4-Chlorophenyl-phenylether	3.3	ND	2,4,6-Trichlorophenol	17	ND
Fluorene	3.3	ND	2,4,5-Trichlorophenol	17	ND
4-Nitroaniline	17	ND	2,4-Dinitrophenol	17	ND
N-Nitrosodiphenylamine	3.3	ND	4-Nitrophenol	17	ND
4-Bromophenyl-phenylether	3.3	ND	4,6-Dinitro-2-methylphenol	17	ND
Hexachlorobenzene	3.3	ND	Pentachlorophenol	17	ND
Phenanthrene	3.3	ND			
Anthracene-----	3.3	TR			

QA/QC Surrogate	Rec.	Range CLP
2-Fluorophenol	NAX	25 - 121%
Phenol-D5	NAX	24 - 113%
Nitrobenzene-D5	NAX	23 - 120%
2-Fluorobiphenyl	NAX	25 - 121%
2,4,6-Tribromophenol	NAX	19 - 122%
Terphenyl-D14	NAX	18 - 137%

Notes: ND = Below minimum detectable level (MDL)
 * = mg/kg based on sample weight as received
 TR = Trace amount present but below MDL
 NA = Not applicable



Client: Clean Harbors of Chicago
Sample ID: BORING #4, SAMPLE #2
Sample Type: Soil

CHAS Lab #: 90X08069-14M
Date Received: 08/09/90
Internal Code: SS90

Semi-Volatile Base/Neutral and Acid Extractable Organic
by EPA Method 8270 (ref. c) - System C
Extraction Date: 08/16/90
Analysis Date: 08/23/90

Base/Neutral Compounds	MDL*	Conc.*	Base/Neutral Compounds	MDL*	Conc.*
bis(2-Chloroethyl)Ether	3.3	ND	Di-n-Butylphthalate	3.3	ND
1,3-Dichlorobenzene	3.3	ND	Fluoranthene	3.3	ND
1,4-Dichlorobenzene	3.3	ND	Pyrene	3.3	ND
1,2-Dichlorobenzene	3.3	ND	Butylbenzylphthalate	3.3	ND
bis(2-Chloroisopropyl)Ether	3.3	ND	3,3'-Dichlorobenzidine	6.7	ND
N-Nitroso-Di-n-Propylamine	3.3	ND	Benzo(a)Anthracene	3.3	ND
Hexachloroethane	3.3	ND	bis(2-Ethylhexyl)Phthalate	6.7	ND
Nitrobenzene	3.3	ND	Chrysene	3.3	ND
Isophorone	3.3	ND	Di-n-Octylphthalate	3.3	ND
bis(2-Chloroethoxy)Methane	3.3	ND	Benzo(b)Fluoranthene	3.3	ND
1,2,4-Trichlorobenzene	3.3	ND	Benzo(k)Fluoranthene	3.3	ND
Naphthalene	3.3	ND	Benzo(a)Pyrene	3.3	ND
4-Chloroaniline	3.3	ND	Indeno(1,2,3-cd)Pyrene	3.3	ND
Hexachlorobutadiene	3.3	ND	Dibenz(a,h)Anthracene	3.3	ND
2-Methylnaphthalene	3.3	ND	Benzo(g,h,i)Perylene	3.3	ND
Hexachlorocyclopentadiene	3.3	ND			
2-Chloronaphthalene	3.3	ND			
2-Nitroaniline	17	ND			
Dimethyl Phthalate	3.3	ND			
Acenaphthylene	3.3	ND			
3-Nitroaniline	17	ND			
Acenaphthene	3.3	ND			
Dibenzofuran	3.3	ND			
2,4-Dinitrotoluene	3.3	ND			
2,6-Dinitrotoluene	3.3	ND			
Diethylphthalate	3.3	ND			
4-Chlorophenyl-phenylether	3.3	ND			
Fluorene	3.3	ND			
4 Nitroaniline	17	ND			
N-Nitrosodiphenylamine	3.3	ND			
4-Bromophenyl-phenylether	3.3	ND			
Hexachlorobenzene	3.3	ND			
Phenanthrene	3.3	ND			
Anthracene-----	3.3-----	TR			

Acid Compounds	MDL*	Conc.*
Phenol	3.3	ND
2-Chlorophenol	3.3	ND
2-Methylphenol	3.3	ND
4-Methylphenol	3.3	ND
2-Nitrophenol	3.3	ND
2,4-Dimethylphenol	3.3	ND
2,4-Dichlorophenol	3.3	ND
4-Chloro-3-methylphenol	3.3	ND
2,4,6-Trichlorophenol	17	ND
2,4,5-Trichlorophenol	17	ND
2,4-Dinitrophenol	17	ND
4-Nitrophenol	17	ND
4,6-Dinitro-2-methylphenol	17	ND
Pentachlorophenol	17	ND

QA/QC Surrogate	Rec.	Range CLP
2-Fluorophenol	NAX	25 - 121%
Phenol-D5	NAX	24 - 113%
Nitrobenzene-D5	NAX	23 - 120%
2-Fluorobiphenyl	NAX	25 - 121%
2,4,6-Tribromophenol	NAX	19 - 122%
Terphenyl-D14	NAX	18 - 137%

Notes: ND = Below minimum detectable level (MDL)
* = mg/kg based on sample weight as received
TR = Trace amount present but below MDL
NA = Not applicable



Client: Clean Harbors of Chicago
Sample ID: BORING #3, SAMPLE #4
Sample Type: Soil

CHAS Lab #: 90X08069-12M
Date Received: 08/09/90
Internal Code: SS90

Semi-Volatile Base/Neutral and Acid Extractable Organic
by EPA Method 8270 (ref. c) - System C
Extraction Date: 08/15/90
Analysis Date: 08/23/90

Base/Neutral Compounds	MDL*	Conc.*	Base/Neutral Compounds	MDL*	Conc.*
bis(2-Chloroethyl)Ether	3.3	ND	Di-n-Butylphthalate	3.3	ND
1,3-Dichlorobenzene	3.3	ND	Fluoranthene	3.3	ND
1,4-Dichlorobenzene	3.3	ND	Pyrene	3.3	ND
1,2-Dichlorobenzene	3.3	ND	Butylbenzylphthalate	3.3	ND
bis(2-Chloroisopropyl)Ether	3.3	ND	3,3'-Dichlorobenzidine	6.7	ND
N-Nitroso-Di-n-Propylamine	3.3	ND	Benzo(a)Anthracene	3.3	ND
Hexachloroethane	3.3	ND	bis(2-Ethylhexyl)Phthalate	6.7	ND
Nitrobenzene	3.3	ND	Chrysene	3.3	ND
Isophorone	3.3	ND	Di-n-Octylphthalate	3.3	ND
bis(2-Chloroethoxy)Methane	3.3	ND	Benzo(b)Fluoranthene	3.3	ND
1,2,4-Trichlorobenzene	3.3	ND	Benzo(k)Fluoranthene	3.3	ND
Naphthalene	3.3	ND	Benzo(a)Pyrene	3.3	ND
4-Chloroaniline-----	3.3	5.8	Indeno(1,2,3-cd)Pyrene	3.3	ND
Hexachlorobutadiene	3.3	ND	Dibenz(a,h)Anthracene	3.3	ND
2-Methylnaphthalene	3.3	ND	Benzo(g,h,i)Perylene	3.3	ND
Hexachlorocyclopentadiene	3.3	ND			
2-Chloronaphthalene	3.3	ND			
2-Nitroaniline	17	ND	Acid Compounds	MDL*	Conc.*
Dimethyl Phthalate	3.3	ND	Phenol-----	3.3	8.2
Acenaphthylene	3.3	ND	2-Chlorophenol	3.3	ND
3-Nitroaniline	17	ND	2-Methylphenol	3.3	ND
Acenaphthene	3.3	ND	4-Methylphenol	3.3	ND
Dibenzofuran	3.3	ND	2-Nitrophenol	3.3	ND
2,4-Dinitrotoluene	3.3	ND	2,4-Dimethylphenol	3.3	ND
2,6-Dinitrotoluene	3.3	ND	2,4-Dichlorophenol	3.3	ND
Diethylphthalate	3.3	ND	4-Chloro-3-methylphenol	3.3	ND
4-Chlorophenyl-phenylether	3.3	ND	2,4,6-Trichlorophenol	17	ND
Fluorene	3.3	ND	2,4,5-Trichlorophenol	17	ND
4-Nitroaniline	17	ND	2,4-Dinitrophenol	17	ND
N-Nitrosodiphenylamine	3.3	ND	4-Nitrophenol	17	ND
4-Bromophenyl-phenylether	3.3	ND	4,6-Dinitro-2-methylphenol	17	ND
Hexachlorobenzene-----	3.3	3.9	Pentachlorophenol	17	ND
Phenanthrene	3.3	ND			
Anthracene	3.3	ND			

QA/QC Surrogate	Rec.	Range CLP
2-Fluorophenol	NAX	25 - 121%
Phenol-D5	NAX	24 - 113%
Nitrobenzene-D5	NAX	23 - 16.7%
2-Fluorobiphenyl	NAX	25 - 121%
2,4,6-Tribromophenol	NAX	19 - 122%
Terphenyl-D14	NAX	18 - 137%

Notes: ND = Below minimum detectable level (MDL)
* = mg/kg based on sample weight as received
NA = Not applicable



Client: Clean Harbors of Chicago
 Sample ID: BORING #4, SAMPLE #1
 Sample Type: Soil

CHAS Lab #: 90X08069-13M
 Date Received: 08/09/90
 Internal Code: SS90

Semi-Volatile Base/Neutral and Acid Extractable Organic
 by EPA Method 8270 (ref. c) - System C
 Extraction Date: 08/15/90
 Analysis Date: 08/23/90

Base/Neutral Compounds	MDL*	Conc.*	Base/Neutral Compounds	MDL*	Conc.*
bis(2-Chloroethyl)Ether	3.3	ND	Di-n-Butylphthalate	3.3	ND
1,3-Dichlorobenzene	3.3	ND	Fluoranthene	3.3	ND
1,4-Dichlorobenzene	3.3	ND	Pyrene	3.3	ND
1,2-Dichlorobenzene	3.3	ND	Butylbenzylphthalate	3.3	ND
bis(2-Chloroisopropyl)Ether	3.3	ND	3,3'-Dichlorobenzidine	6.7	ND
N-Nitroso-Di-n-Propylamine	3.3	ND	Benzo(a)Anthracene	3.3	ND
Hexachloroethane	3.3	ND	bis(2-Ethylhexyl)Phthalate	6.7	6.7
Nitrobenzene	3.3	ND	Chrysene	3.3	ND
Isophorone	3.3	ND	Di-n-Octylphthalate	3.3	ND
bis(2-Chloroethoxy)Methane	3.3	ND	Benzo(b)Fluoranthene	3.3	ND
1,2,4-Trichlorobenzene	3.3	ND	Benzo(k)Fluoranthene	3.3	ND
Naphthalene	3.3	ND	Benzo(a)Pyrene	3.3	ND
4-Chloroaniline	3.3	18	Indeno(1,2,3-cd)Pyrene	3.3	ND
Hexachlorobutadiene	3.3	ND	Dibenz(a,h)Anthracene	3.3	ND
2-Methylnaphthalene	3.3	ND	Benzo(g,h,i)Perylene	3.3	ND
Hexachlorocyclopentadiene	3.3	ND			
2-Chloronaphthalene	3.3	ND			
2-Nitroaniline	17	ND			
Dimethyl Phthalate	3.3	ND			
Acenaphthylene	3.3	ND			
3-Nitroaniline	17	ND			
Acenaphthene	3.3	ND			
Dibenzofuran	3.3	ND			
2,4-Dinitrotoluene	3.3	ND			
2,6-Dinitrotoluene	3.3	ND			
Diethylphthalate	3.3	ND			
4-Chlorophenyl-phenylether	3.3	ND			
Fluorene	3.3	ND			
4-Nitroaniline	17	ND			
N-Nitrosodiphenylamine	3.3	ND			
4-Bromophenyl-phenylether	3.3	ND			
Hexachlorobenzene	3.3	11			
Phenanthrene	3.3	TR			
Anthracene	3.3	ND			

Acid Compounds	MDL*	Conc.*
Phenol	3.3	TR
2-Chlorophenol	3.3	ND
2-Methylphenol	3.3	ND
4-Methylphenol	3.3	ND
2-Nitrophenol	3.3	ND
2,4-Dimethylphenol	3.3	ND
2,4-Dichlorophenol	3.3	4.1
4-Chloro-3-methylphenol	3.3	ND
2,4,6-Trichlorophenol	17	ND
2,4,5-Trichlorophenol	17	ND
2,4-Dinitrophenol	17	ND
4-Nitrophenol	17	ND
4,6-Dinitro-2-methylphenol	17	ND
Pentachlorophenol	17	ND

QA/QC Surrogate	Rec.	Range CLP
2 Fluorophenol	NA%	25 - 121%
Phenol-D5	NA%	24 - 113%
Nitrobenzene-D5	NA%	23 - 120%
2-Fluorobiphenyl	NA%	25 - 121%
2,4,6-Tribromophenol	NA%	19 - 122%
Terphenyl-D14	NA%	18 - 137%

Notes: ND = Below minimum detectable level (MDL)
 * = mg/kg based on sample weight as received
 TR = Trace amount present but below MDL
 NA = Not applicable



Client: Clean Harbors of Chicago
 Sample ID: BORING #1, SAMPLE #4
 Sample Type: Soil

CHAS Lab #: 90X08069-04M
 Date Received: 08/09/90
 Internal Code: SS90

Semi-Volatile Base/Neutral and Acid Extractable Organic
 by EPA Method 8270 (ref. c) - System C

Extraction Date: 08/15/90

Analysis Date: 08/23/90

Base/Neutral Compounds	MDL*	Conc.*	Base/Neutral Compounds	MDL*	Conc.*
bis(2-Chloroethyl)Ether	6.7	ND	Di-n-Butylphthalate	6.7	ND
1,3-Dichlorobenzene	6.7	ND	Fluoranthene	6.7	ND
1,4-Dichlorobenzene	6.7	ND	Pyrene	6.7	ND
1,2-Dichlorobenzene	6.7	ND	Butylbenzylphthalate	6.7	ND
bis(2-Chloroisopropyl)Ether	6.7	ND	3,3'-Dichlorobenzidine	13	ND
N-Nitroso-Di-n-Propylamine	6.7	ND	Benzo(a)Anthracene	6.7	ND
Hexachloroethane	6.7	ND	bis(2-Ethylhexyl)Phthalate	13	ND
Nitrobenzene	6.7	ND	Chrysene	6.7	ND
Isophorone	6.7	ND	Di-n-Octylphthalate	6.7	ND
bis(2-Chloroethoxy)Methane	6.7	ND	Benzo(b)Fluoranthene	6.7	ND
1,2,4-Trichlorobenzene	6.7	ND	Benzo(k)Fluoranthene	6.7	ND
Naphthalene	6.7	ND	Benzo(a)Pyrene	6.7	ND
4-Chloroaniline	6.7	ND	Indeno(1,2,3-cd)Pyrene	6.7	ND
Hexachlorobutadiene	6.7	ND	Dibenz(a,h)Anthracene	6.7	ND
2-Methylnaphthalene	6.7	ND	Benzo(g,h,i)Perylene	6.7	ND
Hexachlorocyclopentadiene	6.7	ND			
2-Chloronaphthalene	6.7	ND			
2-Nitroaniline	33	ND	Acid Compounds	MDL*	Conc.*
Dimethyl Phthalate	6.7	ND	Phenol-----	6.7	22
Acenaphthylene	6.7	ND	2-Chlorophenol	6.7	ND
3-Nitroaniline	33	ND	2-Methylphenol	6.7	ND
Acenaphthene	6.7	ND	4-Methylphenol	6.7	ND
Dibenzofuran	6.7	ND	2-Nitrophenol	6.7	ND
2,4-Dinitrotoluene	6.7	ND	2,4-Dimethylphenol	6.7	ND
2,6-Dinitrotoluene	6.7	ND	2,4-Dichlorophenol	6.7	ND
Diethylphthalate	6.7	ND	4-Chloro-3-methylphenol	6.7	ND
4-Chlorophenyl-phenylether	6.7	ND	2,4,6-Trichlorophenol	33	ND
Fluorene	6.7	ND	2,4,5-Trichlorophenol	33	ND
4-Nitroaniline	33	ND	2,4-Dinitrophenol	33	ND
N-Nitrosodiphenylamine	6.7	ND	4-Nitrophenol	33	ND
4-Bromophenyl-phenylether	6.7	ND	4,6-Dinitro-2-methylphenol	33	ND
Hexachlorobenzene	6.7	ND	Pentachlorophenol	33	ND
Phenanthrene	6.7	ND			
Anthracene	6.7	ND			

QA/QC Surrogate	Rec.	Range CLP
2-Fluorophenol	NAX	25 - 121%
Phenol-D5	NAX	24 - 113%
Nitrobenzene-D5	NAX	23 - 113%
2-Fluorobiphenyl	NAX	25 - 121%
2,4,6-Tribromophenol	NAX	19 - 122%
Terphenyl-D14	NAX	18 - 137%

Notes: ND = Below minimum detectable level (MDL)

* = mg/kg based on sample weight as received

NA = Not applicable



Client: Clean Harbors of Chicago
Sample ID: BORING #1, SAMPLE #3
Sample Type: Soil

CHAS Lab #: 90X08069-03M
Date Received: 08/09/90
Internal Code: SS90

Semi-Volatile Base/Neutral and Acid Extractable Organic
by EPA Method 8270 (ref. c) - System C
Extraction Date: 08/10/90
Analysis Date: 08/23/90

Base/Neutral Compounds	MDL*	Conc.*	Base/Neutral Compounds	MDL*	Conc.*
bis(2-Chloroethyl)Ether	6.7	ND	Di-n-Butylphthalate	6.7	ND
1,3-Dichlorobenzene	6.7	ND	Fluoranthene	6.7	ND
1,4-Dichlorobenzene	6.7	ND	Pyrene	6.7	ND
1,2-Dichlorobenzene	6.7	ND	Butylbenzylphthalate	6.7	ND
bis(2-Chloroisopropyl)Ether	6.7	ND	3,3'-Dichlorobenzidine	13	ND
N-Nitroso-Di-n-Propylamine	6.7	ND	Benzo(a)Anthracene	6.7	ND
Hexachloroethane	6.7	ND	bis(2-Ethylhexyl)Phthalate	13	ND
Nitrobenzene	6.7	ND	Chrysene	6.7	ND
Isophorone	6.7	ND	Di-n-Octylphthalate	6.7	ND
bis(2-Chloroethoxy)Methane	6.7	ND	Benzo(b)Fluoranthene	6.7	ND
1,2,4-Trichlorobenzene	6.7	ND	Benzo(k)Fluoranthene	6.7	ND
Naphthalene	6.7	ND	Benzo(a)Pyrene	6.7	ND
4-Chloroaniline	6.7	ND	Indeno(1,2,3-cd)Pyrene	6.7	ND
Hexachlorobutadiene	6.7	ND	Dibenz(a,h)Anthracene	6.7	ND
2-Methylnaphthalene	6.7	ND	Benzo(g,h,i)Perylene	6.7	ND
Hexachlorocyclopentadiene	6.7	ND			
2-Chloronaphthalene	6.7	ND			
2-Nitroaniline	33	ND	Acid Compounds	MDL*	Conc.*
Dimethyl Phthalate	6.7	ND	Phenol-----	6.7	12
Acenaphthylene	6.7	ND	2-Chlorophenol	6.7	ND
3-Nitroaniline	33	ND	2-Methylphenol	6.7	ND
Acenaphthene	6.7	ND	4-Methylphenol	6.7	ND
Dibenzofuran	6.7	ND	2-Nitrophenol	6.7	ND
2,4-Dinitrotoluene	6.7	ND	2,4-Dimethylphenol	6.7	ND
2,6-Dinitrotoluene	6.7	ND	2,4-Dichlorophenol	6.7	ND
Diethylphthalate	6.7	ND	4-Chloro-3-methylphenol	6.7	ND
4-Chlorophenyl-phenylether	6.7	ND	2,4,6-Trichlorophenol	33	ND
Fluorene	6.7	ND	2,4,5-Trichlorophenol	33	ND
4-Nitroaniline	33	ND	2,4-Dinitrophenol	33	ND
N-Nitrosodiphenylamine	6.7	ND	4-Nitrophenol	33	ND
4-Bromophenyl-phenylether	6.7	ND	4,6-Dinitro-2-methylphenol	33	ND
Hexachlorobenzene	6.7	ND	Pentachlorophenol	33	ND
Phenanthrene	6.7	ND			
Anthracene	6.7	ND			
			QA/QC Surrogate	Rec.	Range CLP
			2-Fluorophenol	34%	25 - 121%
			Phenol-D5	55%	24 - 113%
			Nitrobenzene-D5	42%	23 - 113%
			2-Fluorobiphenyl	54%	25 - 121%
			2,4,6-Tribromophenol	37%	19 - 122%
			Terphenyl-D14	51%	18 - 137%

Notes: ND = Below minimum detectable level (MDL)
* = mg/kg based on sample weight as received



Client: Clean Harbors of Chicago
Sample I.D.: Boring 4 Sample 3
Sample Type: Soil

CHAS Lab #: 90X08069-15U
Date Received: 08/09/90

Parameter	MDL*	Result*	Digestion Date	Analysis Date	Method Number and Reference
Arsenic - TCLP	0.04	ND	08/30/90	08/31/90	3010/6010(c)
Barium - TCLP	0.002	0.348	08/30/90	08/31/90	3010/6010(c)
Cadmium - TCLP	0.003	ND	08/30/90	08/31/90	3010/6010(c)
Chromium - TCLP	0.004	0.024	08/30/90	08/31/90	3010/6010(c)
Lead - TCLP	0.05	ND	08/30/90	08/31/90	3010/6010(c)
Mercury - TCLP	0.0003	ND	08/30/90	08/31/90	7470(c)
Selenium - TCLP	0.06	ND	08/30/90	08/31/90	3010/6010(c)
Silver - TCLP	0.02	ND	08/30/90	08/31/90	3005/6010(c)

Sample extracted on 08/28/90

Notes: ND - Below minimum detectable level (MDL)
* - mg/l
Soil/solid samples based on sample dry weight.

TCLP - Toxicity Characteristic Leaching Procedure as described in the Federal Register,
Volume 51, No. 216.



Client: Clean Harbors of Chicago
Sample I.D.: Boring 4 Sample 4
Sample Type: Soil

CHAS Lab #: 90X08069-16U
Date Received: 08/09/90

Parameter	MDL*	Result*	Digestion Date	Analysis Date	Method Number and Reference
Arsenic - TCLP	0.04	ND	08/30/90	08/31/90	3010/6010(c)
Barium - TCLP	0.002	0.149	08/30/90	08/31/90	3010/6010(c)
Cadmium - TCLP	0.003	ND	08/30/90	08/31/90	3010/6010(c)
Chromium - TCLP	0.004	ND	08/30/90	08/31/90	3010/6010(c)
Lead - TCLP	0.05	ND	08/30/90	08/31/90	3010/6010(c)
Mercury - TCLP	0.0003	ND	08/30/90	08/31/90	7470(c)
Selenium - TCLP	0.06	ND	08/30/90	08/31/90	3010/6010(c)
Silver - TCLP	0.02	ND	08/30/90	08/31/90	3005/6010(c)

Sample extracted on 08/27/90

Notes: ND = Below minimum detectable level (MDL)
* = mg/l
Soil/solid samples based on sample dry weight.

TCLP = Toxicity Characteristic Leaching Procedure as described in the Federal Register,
Volume 51, No. 216.



Client: Clean Harbors of Chicago
Sample I.D.: Boring 4 Sample 2
Sample Type: Soil

CHAS Lab #: 90X08069-14U
Date Received: 08/09/90

Parameter	MDL*	Result*	Digestion Date	Analysis Date	Method Number and Reference
Arsenic - TCLP	0.04	ND	08/30/90	08/31/90	3010/6010(c)
Barium - TCLP	0.002	0.463	08/30/90	08/31/90	3010/6010(c)
Cadmium - TCLP	0.003	ND	08/30/90	08/31/90	3010/6010(c)
Chromium - TCLP	0.004	0.019	08/30/90	08/31/90	3010/6010(c)
Lead - TCLP	0.05	ND	08/30/90	08/31/90	3010/6010(c)
Mercury - TCLP	0.0003	ND	08/30/90	08/31/90	7470(c)
Selenium - TCLP	0.06	ND	08/30/90	08/31/90	3010/6010(c)
Silver - TCLP	0.02	ND	08/30/90	08/31/90	3005/6010(c)

Sample extracted on 08/28/90

Notes: ND - Below minimum detectable level (MDL)
* - mg/l
Soil/solid samples based on sample dry weight.

TCLP - Toxicity Characteristic Leaching Procedure as described in the Federal Register,
Volume 51, No. 216.



Client: Clean Harbors of Chicago
Sample I.D.: Boring 4 Sample 1
Sample Type: Soil

CHAS Lab #: 90X08069-13U
Date Received: 08/09/90

Parameter	MDL*	Result*	Digestion Date	Analysis Date	Method Number and Reference
Arsenic - TCLP	0.04	ND	08/30/90	08/31/90	3010/6010(c)
Barium - TCLP	0.002	0.295	08/30/90	08/31/90	3010/6010(c)
Cadmium - TCLP	0.003	ND	08/30/90	08/31/90	3010/6010(c)
Chromium - TCLP	0.004	ND	08/30/90	08/31/90	3010/6010(c)
Lead - TCLP	0.05	ND	08/30/90	08/31/90	3010/6010(c)
Mercury - TCLP	0.0003	ND	08/30/90	08/31/90	7470(c)
Selenium - TCLP	0.06	ND	08/30/90	08/31/90	3010/6010(c)
Silver - TCLP	0.02	ND	08/30/90	08/31/90	3005/6010(c)

Sample extracted on 08/27/90

Notes: ND - Below minimum detectable level (MDL)

* - mg/l

Soil/solid samples based on sample dry weight.

TCLP - Toxicity Characteristic Leaching Procedure as described in the Federal Register, Volume 51, No. 216.



Client: Clean Harbors of Chicago
Sample I.D.: Boring 3 Sample 1
Sample Type: Soil

CHAS Lab #: 90X08069-09U
Date Received: 08/09/90

Parameter	MDL*	Result*	Digestion Date	Analysis Date	Method Number and Reference
Arsenic - TCLP	0.04	ND	08/30/90	08/31/90	3010/6010(c)
Barium - TCLP	0.002	0.338	08/30/90	08/31/90	3010/6010(c)
Cadmium - TCLP	0.003	0.013	08/30/90	08/31/90	3010/6010(c)
Chromium - TCLP	0.004	0.015	08/30/90	08/31/90	3010/6010(c)
Lead - TCLP	0.05	ND	08/30/90	08/31/90	3010/6010(c)
Mercury - TCLP	0.0003	ND	08/30/90	08/31/90	7470(c)
Selenium - TCLP	0.06	ND	08/30/90	08/31/90	3010/6010(c)
Silver - TCLP	0.02	ND	08/30/90	08/31/90	3005/6010(c)

Sample extracted on 08/27/90

Notes: ND = Below minimum detectable level (MDL)

* = mg/l

Soil/solid samples based on sample dry weight.

TCLP = Toxicity Characteristic Leaching Procedure as described in the Federal Register, Volume 51, No. 216.



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February 20, 1991

Mr. Greg Dunn #24
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
2200 Churchill Road
P.O. Box 19276
Springfield, Illinois 62794-9276


Dear Mr. Dunn:

Per your letter dated January 11, 1991, I have enclosed the groundwater sample data from our on-site monitor well. The soil sample data from the pit just south of our office trailer will be forwarded to you upon corporate approval.

Should you require more information or have any questions, please feel free to contact me at 312/646-6202.

Sincerely,

CLEAN HARBORS OF CHICAGO, INC.


James R. Laubsted
General Manager

Enclosure

JRL/mk

RECEIVED

FEB 25 1991

IEPA/DLPC



Client: Clean Harbors of Chicago
Sample I.D.: Monitoring Well 4TH Quarter
Sample Type: Water

CHAS Lab #: 90X12144-01F
Date Received: 12/21/90

Parameter	MDL*	Result*	Digestion Date	Analysis Date	Method Number and Reference
Antimony - Total	0.06	ND	12/26/90	12/26/90	3005/200.7(a)
Arsenic - Total	0.04	0.05	12/26/90	12/26/90	4.1.3/200.7(a)
Beryllium - Total	0.002	0.008	12/26/90	12/26/90	4.1.3/200.7(a)
Cadmium - Total	0.003	ND	12/26/90	12/26/90	4.1.3/200.7(a)
Chromium - Total	0.004	ND	12/26/90	12/26/90	4.1.3/200.7(a)
Copper - Total	0.02	ND	12/26/90	12/26/90	4.1.3/200.7(a)
Lead - Total	0.05	ND	12/26/90	12/26/90	4.1.3/200.7(a)
Mercury - Total	0.0003	ND	12/26/90	12/27/90	245.1(a)
Nickel - Total	0.01	0.12	12/26/90	12/26/90	4.1.3/200.7(a)
Selenium - Total	0.06	ND	12/26/90	12/26/90	4.1.3/200.7(a)
Silver - Total	0.02	ND	12/26/90	12/26/90	3005/200.7(a)
Thallium - Total	0.07	ND	12/26/90	12/26/90	4.1.3/200.7(a)
Zinc - Total	0.002	0.080	12/26/90	12/26/90	4.1.3/200.7(a)

Notes: ND - Below minimum detectable level (MDL)
* - mg/l
All metal results are blank corrected.

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FEB 25 1991

IEPA/DLPC



Client: Clean Harbors of Chicago
Sample I.D.: Monitoring Well 4TH Quarter
Sample Type: Water

CHAS Lab #: 90X12144-01H
Date Received: 12/21/90

Parameter	MDL	Result	Units	Analysis Date	Method Number and Reference
Cyanide, Total	0.02	0.46	mg/l	12/28/90	335.2(a)

Notes: ND - Below minimum detectable level (MDL)

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FEB 25 1991

IEPA/DLPC



Client: Clean Harbors of Chicago
Sample ID: MONITORING WELL
Sample Type: Water

CHAS Lab #: 90X12144-01G
Date Received: 12/21/90
Internal Code: SW110

Semi-Volatile Base/Neutral and Acid Extractable Organics
by EPA Method 625 (ref. f)

Extraction Date: 12/26/90

Analysis Date: 01/04/91

Base/Neutral Compounds	MDL*	Conc.*	Base/Neutral Compounds	MDL*	Conc.*
bis(2-Chloroethyl)Ether	50	ND	Di-n-Butylphthalate	50	ND
1,3-Dichlorobenzene	50	ND	Fluoranthene	50	ND
1,4-Dichlorobenzene	50	ND	Pyrene	50	ND
1,2-Dichlorobenzene	50	ND	Butylbenzylphthalate	50	ND
bis(2-Chloroisopropyl)Ether	50	ND	3,3'-Dichlorobenzidine	100	ND
N-Nitroso-Di-n-Propylamine	50	ND	Benzo(a)Anthracene	50	ND
Hexachloroethane	50	ND	bis(2-Ethylhexyl)Phthalate	100	ND
Nitrobenzene	50	ND	Chrysene	50	ND
Isophorone	50	ND	Di-n-Octylphthalate	50	ND
bis(2-Chloroethoxy)Methane	50	ND	Benzo(b)Fluoranthene	50	ND
1,2,4-Trichlorobenzene	50	ND	Benzo(k)Fluoranthene	50	ND
Naphthalene	50	ND	Benzo(a)Pyrene	50	ND
Hexachlorobutadiene	50	ND	Indeno(1,2,3-cd)Pyrene	50	ND
Hexachlorocyclopentadiene	50	ND	Dibenz(a,h)Anthracene	50	ND
2-Chloronaphthalene	50	ND	Benzo(g,h,i)Perylene	50	ND
Dimethyl Phthalate	50	ND	N-nitrosodimethylamine	50	ND
Acenaphthylene	50	ND	1,2-diphenylhydrazine		
Acenaphthene	50	ND	(as Azobenzene)	50	ND
2,4-Dinitrotoluene	50	ND	Benzidine	250	ND
2,6-Dinitrotoluene	50	ND			
Diethylphthalate	50	ND	Acid Compounds	MDL*	Conc.*
4-Chlorophenyl-phenylether	50	ND	Phenol	50	1600
Fluorene	50	ND	2-Chlorophenol	50	ND
N-Nitrosodiphenylamine	50	ND	2-Nitrophenol	50	ND
4-Bromophenyl-phenylether	50	ND	2,4-Dimethylphenol	50	ND
Hexachlorobenzene	50	ND	2,4-Dichlorophenol	50	ND
Phenanthrene	50	ND	4-Chloro-3-methylphenol	250	ND
Anthracene	50	ND	2,4,6-Trichlorophenol	250	ND
			2,4-Dinitrophenol	250	ND
			4-Nitrophenol	250	ND
			4,6-Dinitro-2-methylphenol	250	ND
			Pentachlorophenol	250	ND

QA/QC Surrogate	Rec.	Range CLP
2-Fluorophenol	89%	21 - 100%
Phenol-D5	35%	10 - 110%
Nitrobenzene-D5	80%	35 - 114%
2-Fluorobiphenyl	200%	43 - 116%
2,4,6-Tribromophenol	123%	10 - 123%
Terphenyl-D14	160%	33 - 141%

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FEB 25 1991

IEPA/DLPC

Notes:

ND = Below minimum detectable level (MDL)

* = ug/l



Client: Clean Harbors of Chicago
Sample ID: MONITORING WELL

CHAS Lab #: 90X12144-01G
Date Received: 12/21/90

TENTATIVELY IDENTIFIED COMPOUNDS

<u>CAS Number</u>	<u>Compound</u>	<u>Fraction</u>	<u>Estimated Concentration*</u>
---	unknown compound	BNA	19
872504	1-Methyl-2-pyrrolidinone	BNA	36
---	unknown compound	BNA	35
99945	4-Methyl Benzoic Acid	BNA	800
---	unknown compound	BNA	45
---	unknown compound	BNA	26
---	unknown compound	BNA	55
---	unknown compound	BNA	27
---	unknown compound	BNA	200
---	unknown compound	BNA	910
---	unknown compound	BNA	130

Notes:

* = ug/l



Client: Clean Harbors of Chicago
Sample ID: MONITORING WELL
Sample Type: Water

CHAS Lab #: 90X12144-01AB
Date Received: 12/21/90
Internal Code: VW110

Volatile Organic Analysis
by EPA Method 624

Analysis Date: 01/02/91

Parameter	MDL*	Conc.*	Parameter	MDL*	Conc.*
Priority Pollutant Compounds:			1,1,2-Trichloroethane	50	ND
Chloromethane	100	ND	trans-1,3-Dichloropropene	50	ND
Bromomethane	100	ND	2-Chloroethylvinyl Ether	100	ND
Vinyl Chloride	100	ND	Bromoform	50	ND
Chloroethane	100	ND	1,1,2,2-Tetrachloroethane	50	ND
Methylene Chloride	50	1800	Tetrachloroethene	50	ND
Trichlorofluoromethane	50	ND	Toluene	50	ND
1,1-Dichloroethene	50	ND	Chlorobenzene	50	ND
1,1-Dichloroethane	50	ND	Ethylbenzene	50	ND
trans-1,2-Dichloroethene	50	ND	Acrolein	100	ND
Chloroform	50	ND	Acrylonitrile	100	ND
1,2-Dichloroethane	50	ND			
1,1,1-Trichloroethane	50	ND			
Carbon Tetrachloride	50	ND			
Bromodichloromethane	50	ND			
1,2-Dichloropropane	50	ND			
cis-1,3-Dichloropropene	50	ND			
Trichloroethene	50	ND			
Benzene	50	ND			
Dibromochloromethane	50	ND			

Notes:

ND = below minimum detectable level (MDL)
* = ug/l

QA/QC Surrogate recoveries:
1,2-Dichloroethane-D4: 99%
Toluene-D8: 108%
p-BFB: 100%



Client: Clean Harbors of Chicago
Sample ID: MONITORING WELL

CHAS Lab #: 90X12144-01AB
Date Received: 12/21/90

TENTATIVELY IDENTIFIED COMPOUNDS

<u>CAS Number</u>	<u>Compound</u>	<u>Fraction</u>	<u>Estimated Concentration*</u>
---	none found	VOA	---

Notes:

* = ug/l



Client: Clean Harbors of Chicago
Sample I.D.: Monitoring Well 4TH Quarter
Sample Type: Water

CHAS Lab #: 90X12144-01P
Date Received: 12/21/90

Polychlorinated Biphenyls (PCB's)
by EPA Method 3510/8080

Extraction Date: 12/26/90
Analysis Date: 12/28/90

Parameter	MDL	Concentration	Units
PCB - Aroclor 1016	0.1	ND	ug/l
PCB - Aroclor 1221	0.1	ND	ug/l
PCB - Aroclor 1232	0.1	ND	ug/l
PCB - Aroclor 1242	0.1	ND	ug/l
PCB - Aroclor 1248	0.1	ND	ug/l
PCB - Aroclor 1254	0.2	ND	ug/l
PCB - Aroclor 1260	0.2	ND	ug/l

Notes: ND - Below minimum detectable level (MDL)



Client: Clean Harbors of Chicago
Sample I.D.: Monitoring Well 4TH Quarter
Sample Type: Water

CHAS Lab #: 90X12144-01P
Date Received: 12/21/90

Organochlorine Pesticides
by EPA Method 3510/8080

Extraction Date: 12/26/90
Analysis Date: 12/30/90

Parameter	MDL	Concentration	Units
Alpha-BHC	0.05	ND	ug/l
Gamma-BHC (Lindane)	0.05	ND	ug/l
Beta-BHC	0.05	ND	ug/l
Heptachlor	0.05	ND	ug/l
Delta-BHC	0.05	ND	ug/l
Aldrin	0.05	ND	ug/l
Heptachlor Epoxide	0.05	ND	ug/l
Gamma-Chlordane	0.05	ND	ug/l
Alpha-Chlordane	0.05	ND	ug/l
Endosulfan I	0.05	ND	ug/l
4,4'-DDE	0.10	ND	ug/l
Dieldrin	0.10	ND	ug/l
Endrin	0.10	ND	ug/l
4,4'-DDD	0.10	ND	ug/l
Endosulfan II	0.10	ND	ug/l
4,4'-DDT	0.10	ND	ug/l
Endrin Aldehyde	0.10	ND	ug/l
Endosulfan Sulfate	0.10	ND	ug/l
Methoxychlor	0.50	ND	ug/l
Endrin Ketone	0.10	ND	ug/l
Technical Chlordane	0.50	ND	ug/l
Toxaphene	1.0	ND	ug/l

Notes: ND - Below minimum detectable level (MDL)

SPECIAL ANALYSIS FORM 005425 JAN 31 74

Time Collected _____ Sub-Basin SHIP CANAL
Date Collected 1/31/74 Collector ZIEMBA + MIKOLAITS
Facility Name: _____ Facility Number: _____ File Town _____
UPON WASTE MGMT. 11700 STONY ISLAND - CHICAGO
Stream Name(s) _____ Stream Code: _____

Source of Sample: (Exact Location)

TEST WELL #10

Physical Observations, Remarks:

Field Dissolved Oxygen		Field pH		Field Temp.	
<u>0.004</u> <u>Arsenic</u>	_____ Coliform/100ml	<u>GREATER THAN 500</u> <u>300</u>			
<u>1.0</u> <u>Barium</u>	_____ Fecal Coliform	<u>1500</u> <u>200</u>			
<u>2.3</u> <u>Boron</u>	_____ 100 ml Fecal Strep	_____ <u>15/50</u>			
<u>1.80</u> <u>Cadmium</u>	_____ 100 ml Algae (Total) /ml	<u>950</u> <u>Susp. Solids</u>			
<u>0.10</u> <u>Copper</u>	<u>23.0</u> <u>Ammonia (N)</u>	_____ Vol. Susp. Solids			
<u>SUFFICIENT SAMPLE</u> <u>Chromium (Cr)</u>	_____ Organic Nitrogen (N)	<u>10.9</u> <u>PH (units)</u>			
<u>Chromium (hex)</u>	<u>0.5</u> <u>Nitrate + Nitrite (N)</u>	_____ Turbidity (JTU)			
<u>0</u> <u>Iron (Total)</u>	<u>0.68</u> <u>Phosphorus (P)</u>	_____ Hardness			
_____ <u>Iron (Dissolved)</u>	<u>Colored</u> <u>Chloride</u>	<u>Insufficient Sample</u> <u>Alkalinity</u>			
<u>0.45</u> <u>Lead</u>	<u>1.6</u> <u>Fluoride</u>	<u>RECEIVED</u> <u>CHICAGO OFFICE</u>			
<u>0.62</u> <u>Manganese</u>	<u>1200</u> <u>Sulfate</u>	<u>FEB 19 1974</u>			
<u>0.3</u> <u>Mercury (ppb)</u>	<u>6.0</u> <u>Cyanide</u>	<u>ILLINOIS ENVIRONMENTAL PROTECTION AGENCY</u>			
<u>0.1</u> <u>Nickel</u>	_____ <u>MBAS</u>	<u>STATE OF ILLINOIS</u>			
<u>0.00</u> <u>Selenium</u>	<u>0.82</u> <u>Phenol (ppm)</u>	<u>5.530</u> <u>Oil</u>			
<u>0.00</u> <u>Silver</u>		<u>4392 - ROE</u> <u>Spec Cont.</u>			
<u>+</u> <u>Zinc</u>					
Results in mg/l unless otherwise noted. <u>Total Chromium 0.14</u>		FOR LAB USE ONLY			
Transported by: <u>[Signature]</u>		Lab Number <u>005425</u> Rec'd by: <u>[Signature]</u>			
Received by: _____		Date sample rec'd: <u>1-31-74</u> Time: <u>7:00</u>			
Transported by: _____		Date analysis completed: <u>2-14-74</u>			
Received by: _____		Date results forwarded: <u>2-15-74</u>			
		Total Tests requested: <u>29</u> Tests run: <u>2</u>			
		Lab Section: <u>ED</u> - <u>P.M. March</u>			

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ILLINOIS ENVIRONMENTAL PROTECTION AGENCY--DIVISION OF WATER POLLUTION CONTROL

SPECIAL ANALYSIS FORM CU5426 JAN3174

W- Collected _____ Sub-Basin SHIP CANAL
Date Collected 1/31/74 Collector ZIEMBA, + MIKOLAJITIS
Facility Name: _____ Facility Number: _____ File Town: _____
HYON WASTE MGMT. 11700 STONY ISLAND - CHICAGO
Stream Name(s) _____ Stream Code: _____
Source of Sample: (Exact Location) _____

TEST WELL #13

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CHICAGO OFFICE

Physical Observations, Remarks:

FEB 15 1974

ENVIRONMENTAL PROTECTION AGENCY
STATE OF ILLINOIS

Field Dissolved Oxygen	Field pH	Field Temp.
<u>0.8</u> <u>Arsenic</u>	<u>Coliform/100ml</u>	<u>300</u>
<u>0.0</u> <u>Barium</u>	<u>Fecal Coliform</u>	<u>7280</u> <u>300</u>
<u>COLOR</u>	<u>100 ml</u>	
<u>REFERENCE</u>	<u>Fecal Strep</u>	<u>TS/EC</u>
<u>0-40</u> <u>Boron</u>	<u>100 ml</u>	
<u>0.0</u> <u>Cadmium</u>	<u>Algae (Total) /cl</u>	<u>Susp. Solids</u>
<u>0.0</u> <u>Copper</u>	<u>48.0</u> <u>Ammonia (N)</u>	<u>Vol. Susp. Solids</u>
<u>COLOR</u> <u>Chromium (Tri)</u>	<u>Organic Nitrogen (N)</u>	<u>3.8</u> <u>pH (units)</u>
<u>STEELER</u> <u>Chromium (Hex)</u>	<u>Nitrate + Nitrite (N)</u>	<u>Turbidity (JTU)</u>
<u>500</u> <u>Iron (Total)</u>	<u>Phosphorus (P)</u>	<u>Hardness</u>
<u>Iron (Dissolved)</u>	<u>Chloride</u>	<u>Alkalinity</u>
<u>1.5</u> <u>Lead</u>	<u>Fluoride</u>	<u>Total Acidity</u>
<u>100.0</u> <u>Manganese</u>	<u>Sulfate</u>	<u>Free Acidity</u>
<u>0.3</u> <u>Mercury (ppb)</u>	<u>Cyanide</u>	<u>Oil</u>
<u>45.0</u> <u>Nickel</u>	<u>MBAS</u>	<u>Other (Specify)</u>
<u>2.00</u> <u>Selenium</u>	<u>Phenol (ppb)</u>	
<u>2.22</u> <u>Silver</u>		
<u>200.0</u> <u>Zinc</u>		

results in mg/l unless
otherwise noted. Total
420.0 Chromium

Transported by: [Signature]
Received by: _____
Transported by: _____
Received by: _____

FOR LAB USE ONLY
Lab Number: CU05426 Rec'd by: F. Calu
Date sample rec'd: 1-31-74 Time: 2:20
Date analysis completed: 2-13-74
Date results forwarded: 2-14-74
Total Tests requested: 17 Tests run: 17
Lab # 20 2-14-74

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ILLINOIS ENVIRONMENTAL PROTECTION AGENCY--DIVISION OF WATER POLLUTION CONTROL

SPECIAL ANALYSIS FORM 005427 JAN 31 1974

Sample Collected _____ Sub-Basin SHIP CANAL
Date Collected 1/31/74 Collector BIEMBA & MIKOLAJCIE
Facility Name: HYDRA WASTE MGMT. Facility Number: _____ File Town: 11700 STONY ISLAND - CHICAGO
Stream Name(s): _____ Stream Code: _____
Source of Sample: (Exact Location) _____

TEST WELL #14

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CHICAGO OFFICE
FEB 15 1974

Physical Observations, Remarks:

ENVIRONMENTAL PROTECTION AGENCY
STATE OF ILLINOIS

	Field Dissolved Oxygen	Field pH	Field Temp.
<u>0.425</u> <u>Arsenic</u>	<u>Coliform/100ml</u>	<u>BOD</u>	
<u>terfumar</u> <u>Barium</u>	<u>Fecal Coliform</u>	<u>COD</u>	
<u>BOTTLE</u> <u>Boron</u>	<u>100 ml.</u>		
<u>0.08</u> <u>Cadmium</u>	<u>Fecal Strep</u>	<u>TS/EC</u>	
<u>13</u> <u>Copper</u>	<u>100 ml</u>		
<u>0.0</u> <u>Chromium (tri)</u>	<u>Algae (Total) /ml</u>	<u>Susp. Solids</u>	
<u>0.0</u> <u>Chromium (hex)</u>	<u>Ammonia (N)</u>	<u>Vol. Susp. Solids</u>	
<u>1.0</u> <u>Iron (Total)</u>	<u>Organic Nitrogen (N)</u>	<u>pH (units)</u>	
<u>0.0</u> <u>Iron (Dissolved)</u>	<u>Nitrate + Nitrite (N)</u>	<u>Turbidity (JTU)</u>	
<u>0.0</u> <u>Lead</u>	<u>Phosphorus (P)</u>	<u>Hardness</u>	
<u>0.5</u> <u>Manganese</u>	<u>Chloride</u>	<u>Alkalinity</u>	
<u>0.0</u> <u>Mercury (ppb)</u>	<u>Fluoride</u>	<u>Total Acidity</u>	
<u>0.0</u> <u>Nickel</u>	<u>Sulfate</u>	<u>Free Acidity</u>	
<u>0.0</u> <u>Selenium</u>	<u>Cyanide</u>	<u>Oil</u>	
<u>0.5</u> <u>Silver</u>	<u>MBAS</u>	<u>0.425 Arsenic</u>	
<u>0.0</u> <u>Zinc</u>	<u>Phenol (ppb)</u>	<u>Other (Specify)</u>	

Results in mg/l unless otherwise noted.

Total Chromium - 0.33

Transported by: [Signature]
Received by: _____
Transported by: _____
Received by: _____

FOR LAB USE ONLY
Lab Number: 005427 Rec'd by: F. Cohen
Date sample rec'd: 1-31-74 Time: 2:25
Date analysis completed: 2-13-74
Date results forwarded: 2-14-74
Total Tests requested: 15 Tests run: 12
Lab Section: Chemistry Supervisor: P. Makarewicz



Client: Clean Harbors of Chicago
Sample I.D.: Boring 2 Sample 2
Sample Type: Soil

CHAS Lab #: 90X08069-06U
Date Received: 08/09/90

Parameter	MDL*	Result*	Digestion Date	Analysis Date	Method Number and Reference
Arsenic - TCLP	0.04	ND	08/29/90	08/31/90	3010/6010(c)
Barium - TCLP	0.002	0.396	08/29/90	08/31/90	3010/6010(c)
Cadmium - TCLP	0.003	ND	08/29/90	08/31/90	3010/6010(c)
Chromium - TCLP	0.004	0.007	08/29/90	08/31/90	3010/6010(c)
Lead - TCLP	0.05	ND	08/29/90	08/31/90	3010/6010(c)
Mercury - TCLP	0.0003	ND	08/30/90	08/31/90	7470(c)
Selenium - TCLP	0.06	ND	08/29/90	08/31/90	3010/6010(c)
Silver - TCLP	0.02	ND	08/29/90	08/31/90	3005/6010(c)

Sample extracted on 08/28/90

Notes: ND -- Below minimum detectable level (MDL)
* = mg/l
Soil/solid samples based on sample dry weight.

TCLP - Toxicity Characteristic Leaching Procedure as described in the Federal Register, Volume 51, No. 216.



Client: Clean Harbors of Chicago
Sample I.D.: Boring 2 Sample 4
Sample Type: Soil

CHAS Lab #: 90X08069-08U
Date Received: 08/09/90

Parameter	MDL*	Result*	Digestion Date	Analysis Date	Method Number and Reference
Arsenic - TCLP	0.04	ND	08/29/90	08/31/90	3010/6010(c)
Barium - TCLP	0.002	0.432	08/29/90	08/31/90	3010/6010(c)
Cadmium - TCLP	0.003	ND	08/29/90	08/31/90	3010/6010(c)
Chromium - TCLP	0.004	ND	08/29/90	08/31/90	3010/6010(c)
Lead - TCLP	0.05	ND	08/29/90	08/31/90	3010/6010(c)
Mercury - TCLP	0.0003	ND	08/30/90	08/31/90	7470(c)
Selenium - TCLP	0.06	ND	08/29/90	08/31/90	3010/6010(c)
Silver - TCLP	0.02	ND	08/29/90	08/31/90	3005/6010(c)

Sample extracted on 08/28/90

Notes: ND = Below minimum detectable level (MDL)
* = mg/l
Soil/solid samples based on sample dry weight.

TCLP = Toxicity Characteristic Leaching Procedure as described in the Federal Register,
Volume 51, No. 216.



Client: Clean Harbors of Chicago
Sample I.D.: Boring 1 Sample 2
Sample Type: Soil

CHAS Lab #: 90X08069-02U
Date Received: 08/09/90

Parameter	MDL*	Result*	Digestion Date	Analysis Date	Method Number and Reference
Arsenic - TCLP	0.04	ND	08/29/90	08/31/90	3010/6010(c)
Barium - TCLP	0.002	0.484	08/29/90	08/31/90	3010/6010(c)
Cadmium - TCLP	0.003	ND	08/29/90	08/31/90	3010/6010(c)
Chromium - TCLP	0.004	0.005	08/29/90	08/31/90	3010/6010(c)
Lead - TCLP	0.05	ND	08/29/90	08/31/90	3010/6010(c)
Mercury - TCLP	0.0003	ND	08/30/90	08/31/90	7470(c)
Selenium - TCLP	0.06	ND	08/29/90	08/31/90	3010/6010(c)
Silver - TCLP	0.02	ND	08/29/90	08/31/90	3005/6010(c)

Sample extracted on 08/28/90

Notes: ND - Below minimum detectable level (MDL)
* - mg/l
Soil/solid samples based on sample dry weight.

LP - Toxicity Characteristic Leaching Procedure as described in the Federal Register,
Volume 51, No. 216.



Client: Clean Harbors of Chicago
 Sample ID: BORING #4, SAMPLE #4
 Sample Type: Soil

CHAS Lab #: 90X08069-16M
 Date Received: 08/09/90
 Internal Code: S590

Semi-Volatile Base/Neutral and Acid Extractable Organic
 by EPA Method 8270 (ref. c) - System C
 Extraction Date: 08/16/90
 Analysis Date: 08/24/90

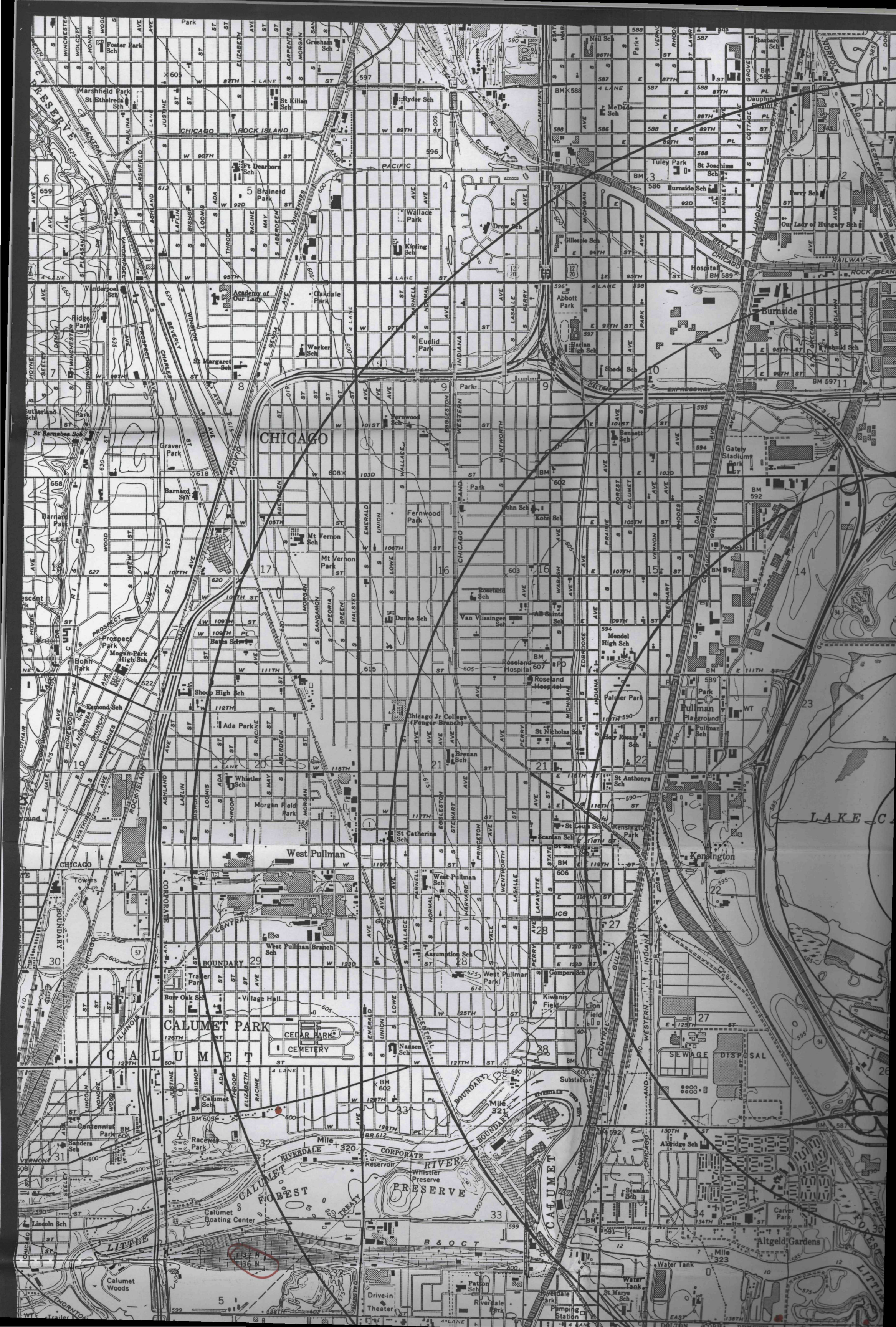
Base/Neutral Compounds	MDL*	Conc.*	Base/Neutral Compounds	MDL*	Conc.*
bis(2-Chloroethyl)Ether	3.3	ND	Di-n-Butylphthalate	3.3	ND
1,3-Dichlorobenzene	3.3	ND	Fluoranthene	3.3	ND
1,4-Dichlorobenzene	3.3	ND	Pyrene	3.3	ND
1,2-Dichlorobenzene	3.3	ND	Butylbenzylphthalate	3.3	ND
bis(2-Chloroisopropyl)Ether	3.3	ND	3,3'-Dichlorobenzidine	6.7	ND
N-Nitroso-Di-n-Propylamine	3.3	ND	Benzo(a)Anthracene	3.3	ND
Hexachloroethane	3.3	ND	bis(2-Ethylhexyl)Phthalate	6.7-----8.8	
Nitrobenzene	3.3	ND	Chrysene	3.3	ND
Isophorone	3.3	ND	Di-n-Octylphthalate	3.3	ND
bis(2-Chloroethoxy)Methane	3.3	ND	Benzo(b)Fluoranthene	3.3	ND
1,2,4-Trichlorobenzene	3.3	ND	Benzo(k)Fluoranthene	3.3	TR
Naphthalene	3.3	ND	Benzo(a)Pyrene	3.3	ND
4-Chloroaniline	3.3	11	Indeno(1,2,3-cd)Pyrene	3.3	ND
Hexachlorobutadiene	3.3	ND	Dibenz(a,h)Anthracene	3.3	ND
2-Methylnaphthalene	3.3	ND	Benzo(g,h,i)Perylene	3.3	ND
Hexachlorocyclopentadiene	3.3	ND			
2-Chloronaphthalene	3.3	ND			
2-Nitroaniline	17	ND	Acid Compounds	MDL*	Conc.
Dimethyl Phthalate	3.3	ND	Phenol	3.3	ND
Acenaphthylene	3.3	ND	2-Chlorophenol	3.3	ND
3-Nitroaniline	17	ND	2-Methylphenol	3.3	ND
Acenaphthene	3.3	ND	4-Methylphenol	3.3	ND
Dibenzofuran	3.3	ND	2-Nitrophenol	3.3	ND
2,4-Dinitrotoluene	3.3	ND	2,4-Dimethylphenol	3.3	ND
2,6-Dinitrotoluene	3.3	ND	2,4-Dichlorophenol	3.3	ND
Diethylphthalate	3.3	ND	4-Chloro-3-methylphenol	3.3	ND
4-Chlorophenyl-phenylether	3.3	ND	2,4,6-Trichlorophenol	17	ND
Fluorene	3.3	ND	2,4,5-Trichlorophenol	17	ND
4-Nitroaniline	17	ND	2,4-Dinitrophenol	17	ND
N-Nitrosodiphenylamine	3.3	ND	4-Nitrophenol	17	ND
4-Bromophenyl-phenylether	3.3	ND	4,6-Dinitro-2-methylphenol	17	ND
Hexachlorobenzene	3.3	25	Pentachlorophenol	17	ND
Phenanthrene	3.3	ND			
Anthracene	3.3	ND			

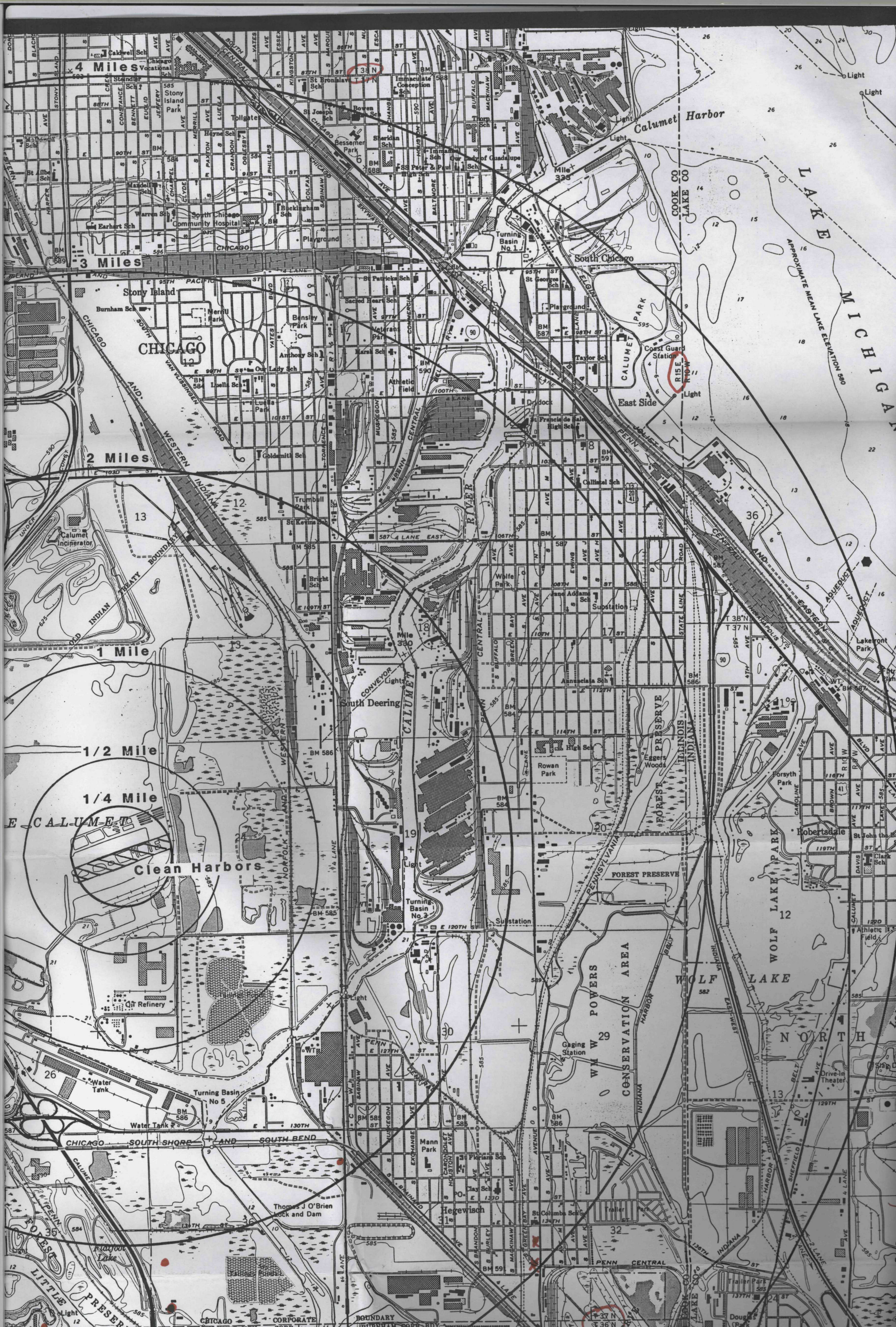
QA/QC Surrogate	Rec.	Range CLP
2-Fluorophenol	NAX	25 - 121%
Phenol-D5	NAX	24 - 113%
Nitrobenzene-D5	NAX	23 - 120%
2-Fluorobiphenyl	NAX	25 - 121%
2,4,6-Tribromophenol	NAX	19 - 122%
Terphenyl D14	NAX	18 - 137%

Notes: ND = Below minimum detectable level (MDL)
 * = mg/kg based on sample weight as received
 TR = Trace amount present but below MDL
 NA = Not applicable

ATTACHMENT E

SITE 4-MILE RADIUS MAP

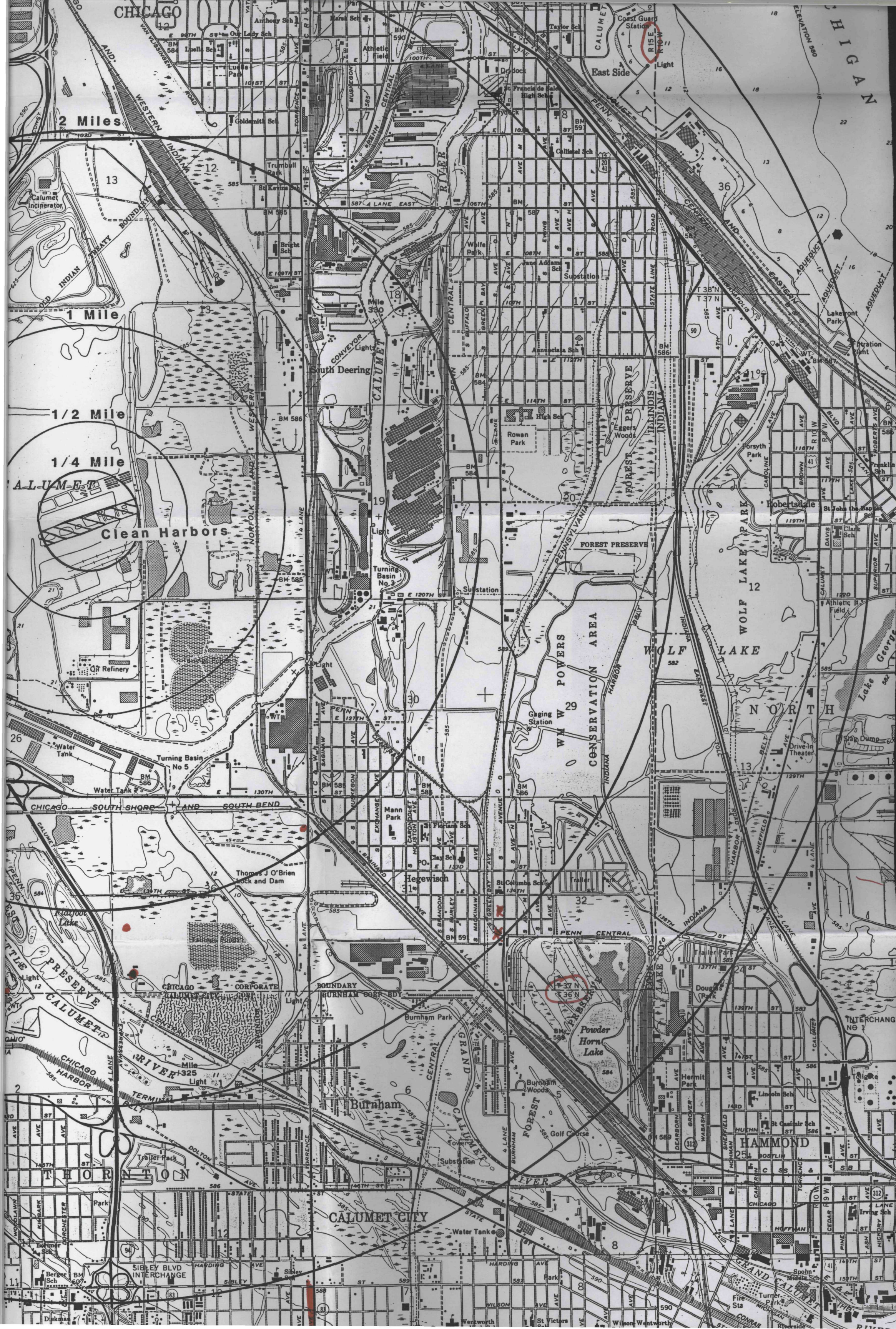






ILLINOIS ENVIRONMENTAL PROTECTION AGENCY		SITE NAME: <u>Clean Harbors of Chicago</u>	
		SITE ILD#: <u>ILD000608471</u>	
USGS TOPOGRAPHIC MAPS			
NAME: <u>Blue Island, IL</u>		NAME: <u>Lake Calumet, IL-IN</u>	
DATE: <u>1963</u>		DATE: <u>1966</u>	
REVISED: <u>1973</u>		REVISED: <u>1973</u>	
NAME:		NAME: <u>Calumet City, IL-IN</u>	
DATE:		DATE: <u>1968</u>	
REVISED:		REVISED: <u>1980</u>	
MAP SCALE		LEGEND	
0 1 MILE		SITE LOCATION	
		PRIVATE WELL	
		SURFACE WATER INTAKE	
		ILLINOIS	
		QUADRANGLE LOCATION	





ATTACHMENT F

AREA WELL LOGS

White Copy - Public Health
Ill. Dept. - Well Contractor
Yellow Copy - Well Contractor
Blue Copy - Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION RECORDED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, ROOM 616, STATE OFFICE BUILDING, SPRINGFIELD, ILLINOIS, 62706. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

1/67

ILLINOIS DEPARTMENT OF PUBLIC HEALTH WELL CONSTRUCTION REPORT

1. Type of Well

- a. Dug _____ Bored _____ Hole Diam. _____ in. Depth _____ ft.
Curb material _____ Buried Slab: Yes _____ No _____
- b. Driven ☒ Drive Pipe Diam. 16 in. Depth 60.25 ft.
- c. Drilled ☒ Finished in Drift _____ In Rock X-1684
Tubular _____ Gravel Packed _____
- d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)
Formix A cement	614.0	surface

2. Distance to Nearest:

Building 200 Ft. Seepage Tile Field _____
Cess Pool _____ Sewer (non Cast iron) _____
Privy _____ Sewer (Cast iron) _____
Septic Tank _____ Barnyard _____
Leaching Pit _____ Manure Pile _____

3. Is water from this well to be used for human consumption?

Yes _____ No ☒

4. Date well completed 1/19/68

5. Permanent Pump Installed? Yes _____ No ☒

Manufacturer _____ Type _____
Capacity _____ gpm. Depth of setting _____ ft.

6. Well Top Sealed? Yes ☒ No _____

7. Pitless Adaptor Installed? Yes _____ No ☒

8. Well Disinfected? Yes ☒ No _____

9. Water Sample Submitted? Yes ☒ No _____

(to State Water Survey)

REMARKS:

GEOLOGICAL WATER SURVEYS WATER WELL RECORD

10. Dept. Mines and Minerals permit No. 3942 Year 1967
11. Property owner Metropolitan Sanitary Dist Well No. TW
Address Colman Treatment Plant Chicago
Driller Layne Western Co. License No. 1A
12. Water from Formations tested 13. County Cook
at depth _____ to _____ ft.
14. Screen: Diam. _____ in.
Length: _____ ft. Slot _____

Exemption 6 - Non Responsive

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
<u>16</u>	<u>Steel - std</u>	<u>+1</u>	<u>60.25</u>
<u>12</u>	<u>Steel 49.56 #</u>	<u>+1</u>	<u>614.0</u>

SHOW
LOCATION IN
SECTION PLAT

Permit:
2960 N. 2000'
of SW/4

16. Size Hole below casing: 12 in.
17. Static level _____ ft. below casing top which is 1 ft.
above ground level. Pumping level _____ ft. when pumping at _____
gpm for _____ hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
<u>Drift</u>	<u>55</u>	<u>55</u>
<u>Siderian limestone</u>	<u>435</u>	<u>490</u>
<u>Mugoket shale</u>	<u>116</u>	<u>606</u>
<u>Galea - Platteville</u>	<u>323</u>	<u>929</u>
<u>St. Peter sandstone</u>	<u>86</u>	<u>1015</u>
<u>Prarie du Lion</u>	<u>196</u>	<u>1209</u>
<u>Trumpet 1200</u>	<u>165</u>	<u>1374</u>
<u>Franciscan</u>	<u>124</u>	<u>1498</u>
<u>Gilesville</u>	<u>179</u>	<u>1668</u>
<u>Eau Claire</u>	<u>16</u>	<u>1684 TO</u>
(CONTINUE ON SEPARATE SHEET IF NECESSARY)		

SIGNED Ray Buffington DATE 1/17/68

White Copy -
Ill. Dept. of Public Health
Yellow Copy - Well Contractor
Blue Copy - Well Owner

INSTRUCTIONS TO DR RS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE
DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST
JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER
SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH WELL CONSTRUCTION REPORT

1. Type of Well

- a. Dug ☐ Bored ☐ Hole Diam. 5 in. Depth 343 ft.
Curb material ☐ Buried Slab: Yes ☐ No ☐
b. Driven ☐ Drive Pipe Diam. ☐ in. Depth ☐ ft.
c. Drilled ☒ Finished in Drift ☐ In Rock ☒
Tubular ☐ Gravel Packed ☐
d. Grout:

(KIND)	FROM (FT.)	TO (FT.)
Cuttings		

2. Distance to Nearest:

Building ☐ Ft. Seepage Tile Field ☐
Cess Pool ☐ Sewer (non Cast iron) ☐
Privy ☐ Sewer (Cast iron) ☐
Septic Tank ☐ Barnyard ☐
Leaching Pit ☐ Manure Pile ☐

3. Well furnishes water for human consumption? Yes ☐ No ☒

4. Date well completed Aug 1984

5. Permanent Pump Installed? Yes ☐ Date ☐ No ☒

Manufacturer ☐ Type ☐ Location ☐

Capacity ☐ gpm. Depth of Setting ☐ Ft.

6. Well Top Sealed? Yes ☐ No ☐ Type ☐

7. Pitless Adapter Installed? Yes ☐ No ☐

Manufacturer ☐ Model Number ☐

How attached to casing? ☐

8. Well Disinfected? Yes ☐ No ☐

9. Pump and Equipment Disinfected? Yes ☐ No ☐

10. Pressure Tank Size ☐ gal. Type ☐

Location ☐

11. Water Sample Submitted? Yes ☐ No ☐

REMARKS:

Observation Well # 11

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Metropolitan San Well No. 11-0

Address 109 E. Erie Chicago

Driller Phil Knerum License No. 102-84

11. Permit No. 112585 Date 5-25-84

12. Water from Rock 13. County Clark

Formation ☐

at depth ☐ to ☐ ft.

14. Screen: Diam. ☐ in.

Length: ☐ ft. Slot ☐

Exemption 6 - Non Responsive

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
<u>5</u>	<u>Sch 40</u>	<u>0</u>	<u>60</u>

SHOW
LOCATION IN
SECTION PLAT
SW SE SW

16. Size Hole below casing: 4 3/4 in.

17. Static level ☐ ft. below casing top which is 1 ft.
above ground level. Pumping level ☐ ft. when pumping at ☐
gpm for ☐ hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
<u>Fill & Clay</u>	<u>0</u>	<u>60</u>
<u>Rock</u>	<u>60</u>	<u>343</u>

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNATURE Phil Knerum DATE 11-16-84

White Copy
Ill. Dept. of Public Health
Yellow Copy - Well Contractor
Blue Copy - Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, ROOM 61 STATE OFFICE BUILDING, SPRINGFIELD, ILLINOIS, 62706. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

1/67

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well

- a. Dug _____ Bored _____ Hole Diam. 8 in. Depth 1021 ft.
Curb material _____ Buried Slab: Yes _____ No _____
- b. Driven _____ Drive Pipe Diam. _____ in. Depth _____ ft.
- c. Drilled X Finished in Drift _____ In Rock X
Tubular _____ Gravel Packed _____
- d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)

2. Distance to Nearest:

Building _____ Ft. Seepage Tile Field _____
Cess Pool _____ Sewer (non Cast iron) _____
Privy _____ Sewer (Cast iron) _____
Septic Tank _____ Barnyard _____
Leaching Pit _____ Manure Pile _____

3. Is water from this well to be used for human consumption?

Yes _____ No X

4. Date well completed March 23, 1967

5. Permanent Pump Installed? Yes X No _____
Manufacturer Red Jacket Type Submersible
Capacity 75 gpm. Depth of setting 690 ft.

6. Well Top Sealed? Yes X No _____

7. Pitless Adaptor Installed? Yes _____ No X

8. Well Disinfected? Yes _____ No X

9. Water Sample Submitted? Yes _____ No X

REMARKS:

GEOLOGICAL WATER SURVEYS WATER WELL RECORD

10. Dept. Mines and Minerals permit No. 1948 Year 1966

11. Property owner Bonell Mfg. Co. Well No. _____

Address 13521 S. Halsted St. Chicago, Ill.

Driller Wohling Well Works, Inc. License No. 92-56

12. Water from _____ 13. County Cook

Formation _____
at depth _____ to _____ ft.

14. Screen: Diam. _____ in.

Length: _____ ft. Slot _____

Exemption 6 - Non Responsive

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
8"		0	71
6"		455	576½

SHOW
LOCATION IN
SECTION PLAT

16. Size Hole below casing: 5½ in.

17. Static level _____ ft. below casing top which is _____ ft.
above ground level. Pumping level _____ ft. when pumping at _____
gpm for _____ hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Mud	20	20
Sandy Mud	35	55
Lime	400	455
Shale	110	565
Lime	325	890
Sand	124	1014
Shale	7	1021
(CONTINUE ON SEPARATE SHEET IF NECESSARY)		

SIGNED H. E. Wohling DATE 3-31-67

DATE 2/22/67

White Copy -
Ill. Dept. of Public Health
Yellow Copy - Well Contractor
Blue Copy - Well Owner

INSTRUCTION J DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE
DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST
JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER
SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH WELL CONSTRUCTION REPORT

1. Type of Well

- a. Dug ☐ Bored ☐ Hole Diam. 5 in. Depth 210 ft.
Curb material ☐ Buried Slab: Yes ☐ No ☐
b. Driven ☐ Drive Pipe Diam. ☐ in. Depth ☐ ft.
c. Drilled ☒ Finished in Drift ☐ In Rock ☒
Tubular ☐ Gravel Packed ☐
d. Grout:

(KIND)	FROM (FT.)	TO (FT.)
Cuttings		

2. Distance to Nearest:

Building ☐ Ft. Seepage Tile Field 75
Cess Pool ☐ Sewer (non Cast iron) ☐
Privy ☐ Sewer (Cast iron) ☐
Septic Tank 50 Barnyard ☐
Leaching Pit ☐ Manure Pile ☐

3. Well furnishes water for human consumption? Yes ☒ No ☐

4. Date well completed 12-20-78

5. Permanent Pump Installed? Yes ☒ Date 3-7-79 No ☐

Manufacturer Red Rock Type SD Location Well
Capacity ☐ gpm. Depth of Setting 140 Ft.

6. Well Top Sealed? Yes ☒ No ☐ Type CAP

7. Pitless Adapter Installed? Yes ☒ No ☐

Manufacturer Williams Model Number BS0AC
How attached to casing? Bolted

8. Well Disinfected? Yes ☒ No ☐

9. Pump and Equipment Disinfected? Yes ☒ No ☐

10. Pressure Tank Size 40 gal. Type ☐

Location Basement

11. Water Sample Submitted? Yes ☐ No ☒

REMARKS:

#11 owner instructed
to do so

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Not Responsive

10. Address Not Responsive Well No. Not Responsive
Driller Phil Kierim License No. 10284
11. Permit No. 87956 Date December 14, 1978
12. Water from Rock 13. County Cook
at depth 40 to 210 ft. Sec. Not Responsive
14. Screen: Diam. ☐ in. Twp. ☐
Length: ☐ ft. Slot ☐ Rge. ☐
Elev. ☐

15. Casing and Liner Pipe

Diam. (In.)	Kind and Weight	From (Ft.)	To (Ft.)
5" 1	Black 15#	0	45

SHOW
LOCATION IN
SECTION PLAT
Lot 19, Maryland Subd.
SESESE

16. Size Hole below casing: 5 in.
17. Static level 140 ft. below casing top which is 1 ft.
above ground level. Pumping level 140 ft. when pumping at 10
gpm for 4 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Top Soil	0	3
Clay	3	45
Rock	45	210

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Phil Kierim DATE March 7, 1979

White Copy
 Yellow Copy - Well Contractor
 Blue Copy - Well Driller

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH WELL CONSTRUCTION REPORT

1. Type of Well

- a. Dug _____ Bored _____ Hole Diam. 6 in. Depth 450 ft.
 Curb material _____ Buried Slab: Yes _____ No _____
- b. Driven _____ Drive Pipe Diam. _____ in. Depth _____ ft.
- c. Drilled X Finished in Drift _____ In Rock X
 Tubular _____ Gravel Packed _____
- d. Grout: _____

(KIND)	FROM (Ft.)	TO (Ft.)

2. Distance to Nearest:

Building 10 Ft. Seepage Tile Field 75
 Cess Pool _____ Sewer (non Cast iron) _____
 Privy _____ Sewer (Cast iron) _____
 Septic Tank 50 Barnyard _____
 Leaching Pit _____ Manure Pile _____

3. Well furnishes water for human consumption? Yes X No _____

4. Date well completed 6/27/78

5. Permanent Pump Installed? Yes _____ Date _____ No X

Manufacturer _____ Type _____ Location _____
 Capacity _____ gpm. Depth of Setting _____ Ft.

6. Well Top Sealed? Yes X No _____ Type _____

7. Pitless Adapter Installed? Yes _____ No _____

Manufacturer _____ Model Number _____
 How attached to casing? _____

8. Well Disinfected? Yes X No _____

9. Pump and Equipment Disinfected? Yes _____ No _____

10. Pressure Tank Size _____ gal. Type _____

Location _____

11. Water Sample Submitted? Yes _____ No _____

REMARKS:

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Land and Lakes Co. Well No. _____

Address 123 N. Northwest Hwy. Park, Illinois, IL

Driller W. E. Wehling License No. 202-2

11. Permit No. 75892 Date 6/27/78

12. Water from _____ 13. County Champaign

Formation _____ at depth _____ to _____ ft. Sec. 35

14. Screen: Diam. _____ in. Twp. 37E

Length: _____ ft. Slot _____ Rge. 16E

105'N & 1475' E of SW of Above Elev. _____

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
6	galv. seamless	+1	60

SHOW LOCATION IN SECTION PLAT
105'N, 1475'E, 3-1/2
 (Industrial - drinking + sanitary purposes in conj. w/ commercial operation.)

16. Size Hole below casing: _____ in.

17. Static level _____ ft. below casing top which is _____ ft.

above ground level. Pumping level _____ ft. when pumping at _____

gpm for _____ hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Drift	59	59
Lime	361	420
Lime & Shale	20	440
Shale	10	450

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

Wehling Well Works, Inc.

SIGNED W. E. Wehling DATE 7/7/78

INSTRUCTIONS TO DRILLERS

White Copy - Ill. Dept. of Public Health
 Yellow Copy - Well Contractor
 Blue Copy - Well Owner

FILL IN ALL PERTINENT INFORMATION REQUIRED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, ROOM 616, STATE OFFICE BUILDING, SPRINGFIELD, ILLINOIS, 62706. DO NOT DETACH GEOLOGICAL / WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH WELL CONSTRUCTION REPORT

1. Type of Well

- a. Dug ☐ Bored ☐ Hole Diam. 8 in. Depth 1125 ft.
 Curb material ☐ Buried Slab: Yes ☐ No ☐
 b. Driven ☐ Drive Pipe Diam. ☐ in. Depth ☐ ft.
 c. Drilled ☒ Finished in Drift ☐ In Rock ☒
 Tubular ☐ Gravel Packed ☐
 d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)
<u>Cement</u>	<u>0</u>	<u>85</u>

2. Distance to Nearest:

Building ☐ Ft. Seepage Tile Field ☐
 Cess Pool ☐ Sewer (non Cast iron) ☐
 Privy ☐ Sewer (Cast iron) ☐
 Septic Tank ☐ Barnyard ☐
 Leaching Pit ☐ Manure Pile ☐

3. Is water from this well to be used for human consumption?

Yes ☒ No ☐

4. Date well completed 8-28-725. Permanent Pump Installed? Yes ☒ No ☐

Manufacturer Barnes 4chp Type Subm. turbine
 Capacity 200 gpm. Depth of setting 460 ft.

6. Well Top Sealed? Yes ☒ No ☐7. Pitless Adaptor Installed? Yes ☒ No ☐8. Well Disinfected? Yes ☒ No ☐9. Water Sample Submitted? Yes ☐ No ☒

REMARKS: Truck Wash

owner instructed

IDPH 4.065
10/68

25,000 gpd

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner C. J. D. Corp. ^{Truck Wash.} Well No.
 Address 138 & Calumet Cypk Chicago Ill
 Driller K & K Paul License No. 92-518
 11. Permit No. 19364 Date 8-8-72
 12. Water from St Peter Sandstone ^{Formation} 13. County Cook
 at depth 300 to 1135 ft.
 14. Screen: Diam. ☐ in.
 Length: ☐ ft. Slot ☐

Exemption 6 - Non Responsive

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
<u>12"</u>	<u>Galv. 36 lb.</u>	<u>0</u>	<u>85</u>
<u>8"</u>	<u>" 26 "</u>	<u>85</u>	<u>698</u>

SHOW
LOCATION IN
SECTION PLAT

S 30° N 70° E SW 1/4
300' N 700' E SW 1/4

16. Size Hole below casing: 8 in.

17. Static level 300 ft. below casing top which is 1 ft.
 above ground level. Pumping level 460 ft. when pumping at 200
 gpm for 12 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
<u>Overburden</u>	<u>0</u>	<u>85</u>
<u>Rock formation</u>	<u>85 to</u>	<u>450</u>
<u>Shale</u>	<u>450</u>	<u>665</u>
<u>Rock</u>	<u>665</u>	<u>990</u>
<u>St Peter Sandstone</u>	<u>990</u>	<u>1125</u>

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Paul Kneier DATE 10-26-72

K. K. Well alk.

Correction from RTS - 2/19/74

White Copy - Public Health
Yellow Copy - Well Contractor
Blue Copy - Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION. REJECTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, ROOM 616, STATE OFFICE BUILDING, SPRINGFIELD, ILLINOIS, 62706. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

1/67

ILLINOIS DEPARTMENT OF PUBLIC HEALTH WELL CONSTRUCTION REPORT

1. Type of Well

- a. Dug ☐. Bored ☐. Hole Diam. 6 in. Depth 428 ft.
Curb material ☐. Buried Slab: Yes ☐ No ☐
- b. Driven ☐. Drive Pipe Diam. ☐ in. Depth ☐ ft.
- c. Drilled ☒. Finished in Drift ☐. In Rock ☒.
Tubular ☐. Gravel Packed ☐.
- d. Grout:

(KIND)	FROM (FT.)	TO (FT.)

2. Distance to Nearest:

Building ☐ Ft. Seepage Tile Field ☐

Cess Pool ☐ Sewer (non Cast iron) ☐

Privy ☐ Sewer (Cast iron) ☐

Septic Tank ☐ Barnyard ☐

Leaching Pit ☐ Manure Pile ☐

3. Is water from this well to be used for human consumption?

Yes ☒ No ☐

4. Date well completed July 10, 1968

5. Permanent Pump Installed? Yes ☐ No ☐

Manufacturer ☐ Type ☐

Capacity ☐ gpm. Depth of setting ☐ ft.

6. Well Top Sealed? Yes ☐ No ☐

7. Pitless Adaptor Installed? Yes ☐ No ☐

8. Well Disinfected? Yes ☒ No ☐

9. Water Sample Submitted? Yes ☐ No ☐

REMARKS:

GEOLOGICAL WATER SURVEYS WATER WELL RECORD

10. Dept. Mines and Minerals permit No. 4263 Year 1968

11. Property owner Lord Union Hall Local Well No.

Address 135th & Lawrence Ave., Chicago, Illinois

Driller E. C. Wohling License No. 92-56

12. Water from ☐ 13. County Cook

Formation ☐

at depth ☐ to ☐ ft. Sec. 36.10

14. Screen: Diam. ☐ in. Twp. 37E

Length: ☐ ft. Slot ☐ Rng. 1E

Elev. ☐

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)	SHOW LOCATION IN SECTION IN PLAT
<u>6</u>	<u>Galv. seamless</u>	<u>0</u>	<u>73</u>	<u>36.10 NE</u>
				<u>37E 1E</u>
				<u>38</u>

16. Size Hole below casing: 5-7/8 in.

17. Static level 65 ft. below casing top which is ☐ ft. above ground level. Pumping level 165 ft. when pumping at 30 gpm for 3 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Cinder fill	5	5
Boulder & gravel	10	15
Clay	50	65
gravel	6	71
Idmo	357	428
(CONTINUE ON SEPARATE SHEET IF NECESSARY)		

SIGNED E. C. Wohling, Pres. DATE July 31, 1968

White Copy -
Ill. Dept. of Public Health
Yellow Copy - Well Contractor
Blue Copy - Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, ROOM 616, STATE OFFICE BUILDING, SPRINGFIELD, ILLINOIS, 62706. DO NOT DETACH GEOLOGICAL / WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH WELL CONSTRUCTION REPORT

1. Type of Well

- a. Dug ☐ Bored ☐ Hole Diam. in. Depth ft.
Curb material Buried Slab: Yes ☐ No ☐
b. Driven ☐ Drive Pipe Diam. in. Depth ft.
c. Drilled ☒ Finished in Drift ☐ In Rock ☒
Tubular ☐ Gravel Packed ☐
d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)
None		

2. Distance to Nearest:

Building 30 Ft. Seepage Tile Field ☐
Cess Pool ☐ Sewer (non Cast iron) ☐
Privy ☐ Sewer (Cast iron) ☐
Septic Tank ☐ Barnyard ☐
Leaching Pit ☐ Manure Pile ☐

3. Is water from this well to be used for human consumption?

Yes ☒ No ☐

4. Date well completed March 20, 1970

5. Permanent Pump Installed? Yes ☒ No ☐
Manufacturer Grundfos Type Subm.
Capacity 15 gpm. Depth of setting 310 ft.

6. Well Top Sealed? Yes ☒ No ☐

7. Pitless Adaptor Installed? Yes ☒ No ☐

8. Well Disinfected? Yes ☒ No ☐

9. Water Sample Submitted? Yes ☐ No ☒

REMARKS:

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Ace Sewer Service Well No. 173
Address 1343 + Columbus Express, Chicago, Ill.
Driller H. Hollmann License No. 701
11. Permit No. 8646 Date Nov. 13, 1969
12. Water from Quaternary Formation
at depth 65 to 329 ft.
13. County Cook
14. Screen: Diam. in.
Length: ft. Slot

Exemption 6 - Non Responsive

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	Standard Steel	0	65
	Galv. Casing 15		
	lbs. per ft.		

SHOW
LOCATION IN
SECTION PLAT

NE NW SW

16. Size Hole below casing: 5 in.

17. Static level 20 ft. below casing top which is 1 ft.
above ground level. Pumping level 240 ft. when pumping at 5
gpm for 1 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Soil	1	1
Yellow Clay	14	15
Blue Clay	45	60
Gravel	5	65
Limestone	264	329

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED

H. Hollmann

DATE

March 20, 1970

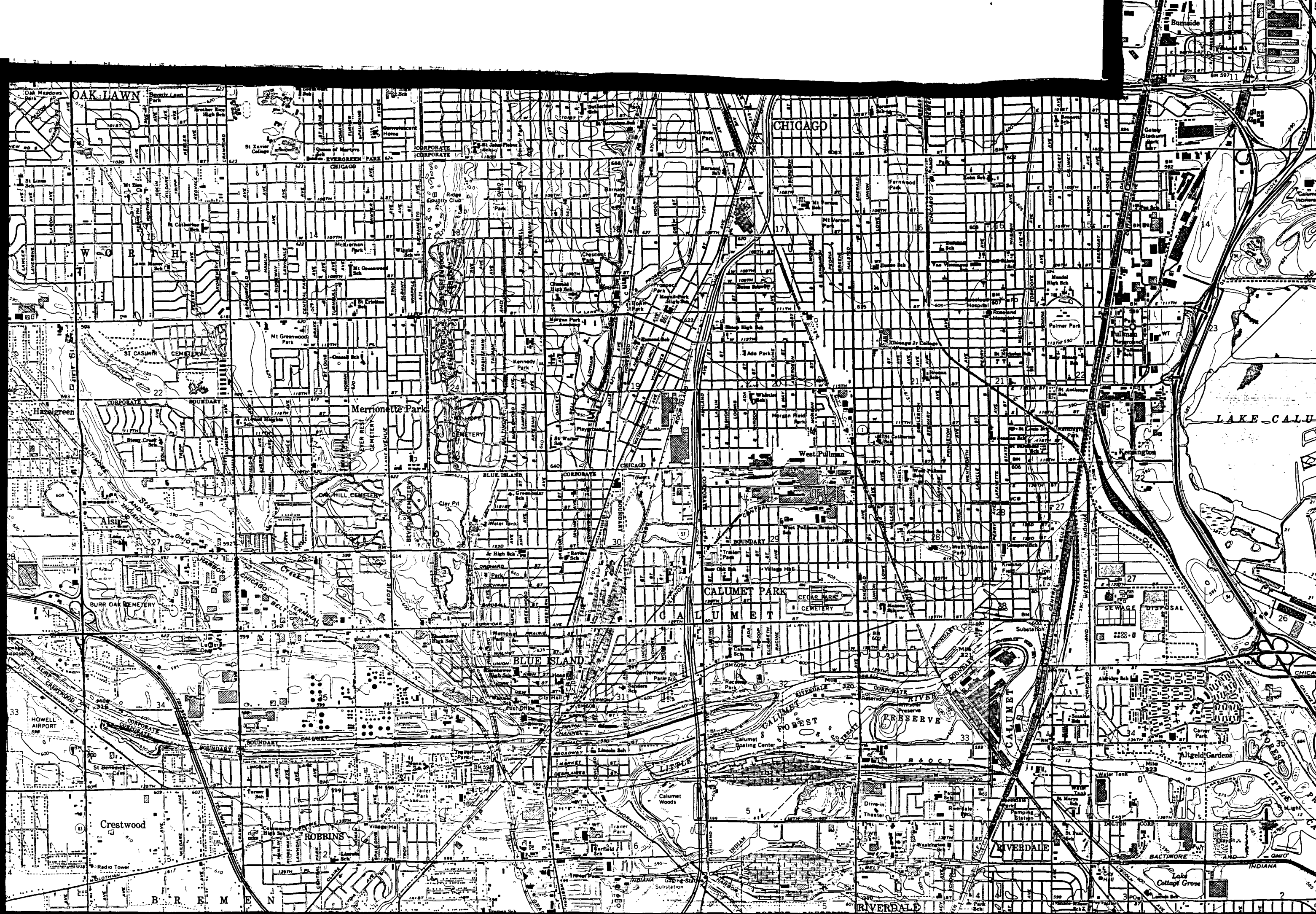
ATTACHMENT G

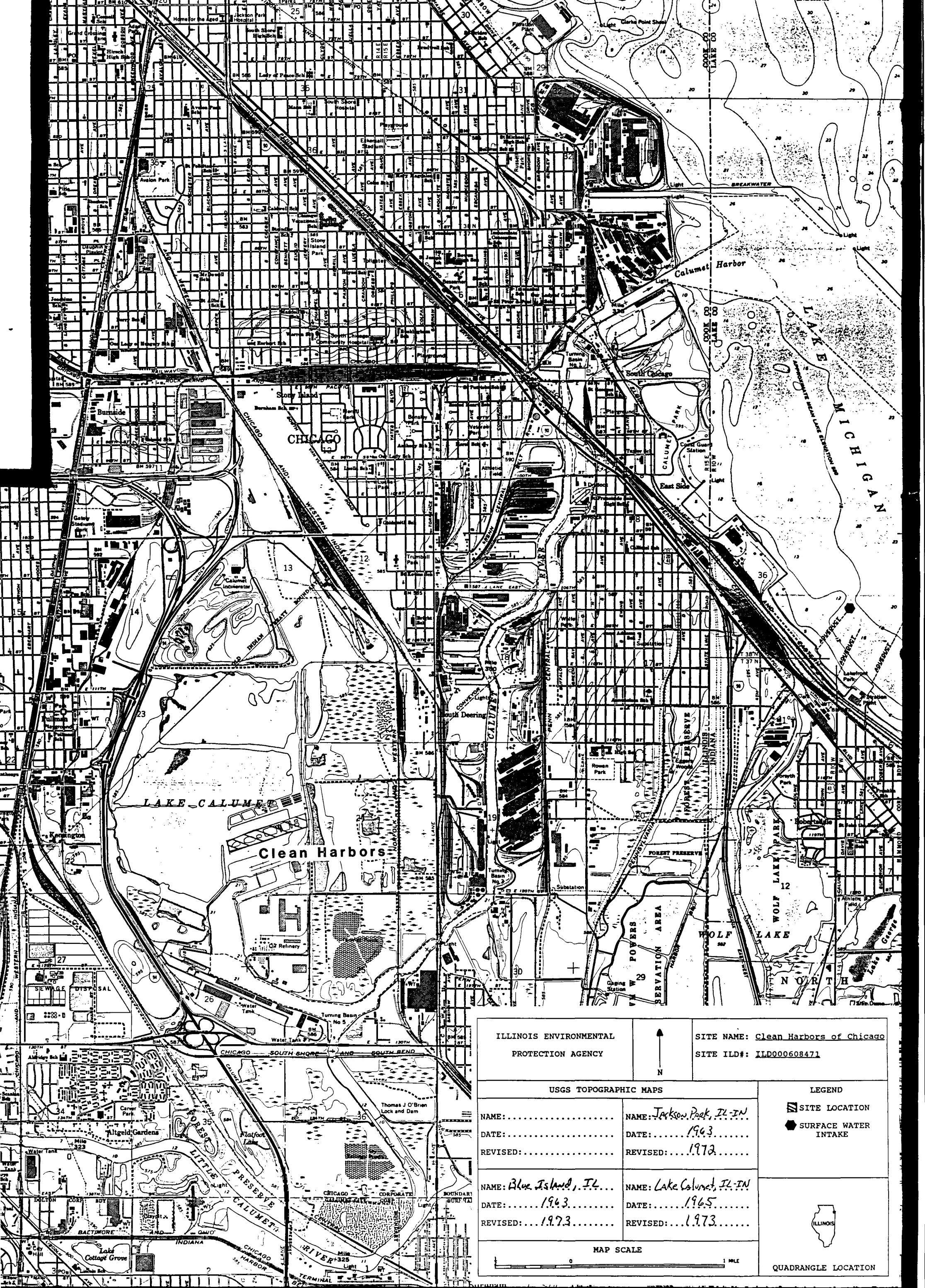
15-MILE SURFACE WATER MAP

Exemption 6 - Non Responsive

Exemption 6 - Non Responsive

Exemption 6 - Non Responsive





ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY

SITE NAME: Clean Harbors of Chicago
SITE ILD#: ILD000608471

USGS TOPOGRAPHIC MAPS

NAME:	NAME: <u>Jackson Park, IL-IN</u>
DATE:	DATE: <u>1963</u>
REVISED:	REVISED: <u>1972</u>
NAME: <u>Blue Island, IL</u>	NAME: <u>Lake Calumet, IL-IN</u>
DATE: <u>1963</u>	DATE: <u>1965</u>
REVISED: <u>1973</u>	REVISED: <u>1973</u>

MAP SCALE
0 1 MILE

LEGEND

SITE LOCATION
 SURFACE WATER
INTAKE



QUADRANGLE LOCATION

ATTACHMENT H

PRELIMINARY ASSESSMENT FORM 2070-12



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE IL 02 SITE NUMBER 000608471

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 <input checked="" type="checkbox"/> A GROUNDWATER CONTAMINATION 03 POPULATION POTENTIALLY AFFECTED <u>17</u>	02 <input checked="" type="checkbox"/> OBSERVED (DATE <u>1974</u>) 04 NARRATIVE DESCRIPTION Wells placed on property now owned by Clean Harbors were sampled in 1974 for metals. Testing well 13 was analyzed and contained a number of metals above the background concentrations found in testing well 14. See "G" below for drinking water.	POTENTIAL <input checked="" type="checkbox"/> ALLEGED <input type="checkbox"/>
01 <input checked="" type="checkbox"/> B SURFACE WATER CONTAMINATION 03 POPULATION POTENTIALLY AFFECTED <u>unknown</u>	02 <input type="checkbox"/> OBSERVED (DATE _____) 04 NARRATIVE DESCRIPTION Surface water runoff from the site flows into Lake Calumet. Lake Calumet flows into the Calumet River (which flows to Lake Michigan) and the Little Calumet River. The Little Calumet River and Lake Michigan are used for recreation.	POTENTIAL <input type="checkbox"/> ALLEGED <input type="checkbox"/>
01 <input checked="" type="checkbox"/> C CONTAMINATION OF AIR 03 POPULATION POTENTIALLY AFFECTED <u>295,000</u>	02 <input checked="" type="checkbox"/> OBSERVED (DATE <u>1983</u>) 04 NARRATIVE DESCRIPTION Two releases have occurred from the site, one in 1983 and one in 1987. Both releases were due to incoming loads of waste producing an air release. No injuries were reported.	POTENTIAL <input type="checkbox"/> ALLEGED <input type="checkbox"/>
01 <input type="checkbox"/> D FIRE/EXPLOSIVE CONDITIONS 03 POPULATION POTENTIALLY AFFECTED _____	02 <input type="checkbox"/> OBSERVED (DATE _____) 04 NARRATIVE DESCRIPTION None documented or observed.	POTENTIAL <input type="checkbox"/> ALLEGED <input type="checkbox"/>
01 <input type="checkbox"/> E DIRECT CONTACT 03 POPULATION POTENTIALLY AFFECTED _____	02 <input type="checkbox"/> OBSERVED (DATE _____) 04 NARRATIVE DESCRIPTION None documented or observed.	POTENTIAL <input type="checkbox"/> ALLEGED <input type="checkbox"/>
01 <input checked="" type="checkbox"/> F CONTAMINATION OF SOIL 03 AREA POTENTIALLY AFFECTED <u>6</u> (Acres)	02 <input checked="" type="checkbox"/> OBSERVED (DATE <u>1990</u>) 04 NARRATIVE DESCRIPTION Borings taken on-site indicate low levels of organic and some moderate levels of inorganics. Past practices included the stabilizing of pickle liquor in lagoons then using the stabilized acid-line sludge for fill.	POTENTIAL <input checked="" type="checkbox"/> ALLEGED <input type="checkbox"/>
01 <input checked="" type="checkbox"/> G DRINKING WATER CONTAMINATION 03 POPULATION POTENTIALLY AFFECTED <u>17</u>	02 <input type="checkbox"/> OBSERVED (DATE _____) 04 NARRATIVE DESCRIPTION The major aquifer used for drinking is the shallow detonite aquifer. Approximately 60 wells serving 17 people are located within five miles of the site. The closest drinking well is 1.95 miles south southeast of the site.	POTENTIAL <input checked="" type="checkbox"/> ALLEGED <input type="checkbox"/>
01 <input type="checkbox"/> H WORKER EXPOSURE/INJURY 03 WORKERS POTENTIALLY AFFECTED _____	02 <input type="checkbox"/> OBSERVED (DATE _____) 04 NARRATIVE DESCRIPTION None documented or observed.	POTENTIAL <input type="checkbox"/> ALLEGED <input type="checkbox"/>
01 <input type="checkbox"/> I POPULATION EXPOSURE/INJURY 03 POPULATION POTENTIALLY AFFECTED _____	02 <input type="checkbox"/> OBSERVED (DATE _____) 04 NARRATIVE DESCRIPTION None documented or observed.	POTENTIAL <input type="checkbox"/> ALLEGED <input type="checkbox"/>



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
IL D 000608471

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA
04 NARRATIVE DESCRIPTION

None documented or observed

02 ☐ OBSERVED (DATE _____)

☐ POTENTIAL

☐ ALLEGED

01 ☐ K. DAMAGE TO FAUNA
04 NARRATIVE DESCRIPTION (include name(s) of species)

None documented or observed

02 ☐ OBSERVED (DATE _____)

☐ POTENTIAL

☐ ALLEGED

01 ☐ L. CONTAMINATION OF FOOD CHAIN
04 NARRATIVE DESCRIPTION

None documented or observed

02 ☐ OBSERVED (DATE _____)

☐ POTENTIAL

☐ ALLEGED

01 ☒ M. UNSTABLE CONTAINMENT OF WASTES
(Spills, runoff, standing liquids, leaking drums)

03 POPULATION POTENTIALLY AFFECTED 295,000

04 NARRATIVE DESCRIPTION
Waste pickle liquor was disposed in lagoons (unknown if liner existed) for stabilizing with lime, between 1972 and 1976.

02 ☐ OBSERVED (DATE _____)

☒ POTENTIAL

☐ ALLEGED

01 ☐ N. DAMAGE TO OFFSITE PROPERTY
04 NARRATIVE DESCRIPTION

None documented or observed

02 ☐ OBSERVED (DATE _____)

☐ POTENTIAL

☐ ALLEGED

01 ☒ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs
04 NARRATIVE DESCRIPTION

The Metropolitan Water Reclamation District of Greater Chicago has recorded violations by Clean Harbors from 1984 to 1990 for the following parameters: mercury, pH, total cyanide, PCBs, copper, fats, oils and greases, lead, nickel, zinc and other parameters.

02 ☒ OBSERVED (DATE: 1984)

☐ POTENTIAL

☐ ALLEGED

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING
04 NARRATIVE DESCRIPTION

None documented or observed

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

III. TOTAL POPULATION POTENTIALLY AFFECTED: 295,000

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Visual Site Inspection December 14, 1990
Illinois EPA Air Files
Illinois EPA Water Files

Illinois EPA Land Files
Metropolitan Water Reclamation District of Greater Chicago discharge files.



L0316000051

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
IL 17000608471

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER			
Clean Harbors of Chicago (AKA Chem-Clear)	11800 S. Stony Island Avenue			
03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE
Chicago	IL	60617	Cook	031
09 COORDINATES LATITUDE		08 CONG DIST		
41 40 44.0		IL-02		
LONGITUDE		01		
-87 34 46.0		Lake Calumet, IL-IN (SSA)		

10 DIRECTIONS TO SITE (Starting from nearest public road)

Take Interstate 94 to 130th Street. Follow 130th Street east to Torrence Avenue. Left (North) on Torrence to 122nd St. Follow 122nd St. to Stony Island Avenue. Right on Stony Island Avenue to site, which is on the left side of the road.

III. RESPONSIBLE PARTIES

01 OWNER (if known)	02 STREET (Business, mailing, residential)			
Clean Harbors Environmental Services Companies	1200 Crown Colony Drive P.O. Box 9137			
03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER	
Quincy	MA	02269	(617) 849-1800	
07 OPERATOR (if known and different from owner)	08 STREET (Business, mailing, residential)			
09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER	
			()	

13 TYPE OF OWNERSHIP (Check one)

☒ A. PRIVATE ☐ B. FEDERAL: _____ ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
(Agency name)
☐ F. OTHER: _____ ☐ G. UNKNOWN
(Specify)

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)

☒ A. RCRA 300 DATE RECEIVED: 11/17/80 ☐ B. UNCONTROLLED WASTE SITE (RCRA 103 c) DATE RECEIVED: 1/1/81 ☐ C. NONE
MONTH DAY YEAR MONTH DAY YEAR

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION	BY (Check all that apply)	
<input checked="" type="checkbox"/> YES DATE 12/19/90	<input type="checkbox"/> A. EPA <input type="checkbox"/> B. EPA CONTRACTOR <input checked="" type="checkbox"/> C. STATE <input type="checkbox"/> D. OTHER CONTRACTOR	
<input type="checkbox"/> NO	<input type="checkbox"/> E. LOCAL HEALTH OFFICIAL <input type="checkbox"/> F. OTHER: Water District (MWRD-C)	
01/16/73	CONTRACTOR NAME(S):	
02 SITE STATUS (Check one)	03 YEARS OF OPERATION	
<input checked="" type="checkbox"/> A. ACTIVE <input type="checkbox"/> B. INACTIVE <input type="checkbox"/> C. UNKNOWN	1972 1	
	BEGINNING YEAR ENDING YEAR	

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

Inorganic (Corrosive, Toxic)

Sludge (Toxic, Corrosive)

Heavy Metals (Corrosive, Toxic)

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

Groundwater (Population, Environment)

Surface water (Environment)

Vapor Release (Population, Environment)

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)

☐ A. HIGH (Inspection required promptly) ☐ B. MEDIUM (Inspection required) ☐ C. LOW (Inspect on time available basis) ☒ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NUMBER
Mr. James Laubsted	Clean Harbors of Chicago	312 1646-6202
04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION
Gregory W. Dunn	IEPA	Pre-Remedial
	07 TELEPHONE NUMBER	08 DATE
	1217 782-6761	04/04/91
		MONTH DAY YEAR



I HIGHLY VOLATILE
J EXPLOSIVE
K REACTIVE
L INCOMPATIBLE
M NOT APPLICABLE

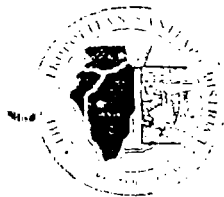
Visual Site Inspection December 19, 1990
Part B Permit Application and Revisions
Illinois EPA Land Pollution Control Files.

SUPPORTING DOCUMENTS

REFERENCE SHEET

1. Analytical results from effluent samples collected by the Metropolitan Water Reclamation District of Greater Chicago.
2. Spill reports from incidents at the Clean Harbors facility.
3. Operating permit granted to Clean Harbors by the Illinois Environmental Protection Agency.
4. January 22, 1973 Hearing notes at a meeting with Hyon Waste Management.
5. April 4, 1973 inspection at the Hyon facility by Mr. Larry Ziemba of the Division of Water Pollution Control (IEPA).

NICHOLAS J. MELAS
PRESIDENT



THE
METROPOLITAN SANITARY DISTRICT
OF GREATER CHICAGO

100 EAST ERIE ST., CHICAGO, ILLINOIS 60611 . . . 751-5600

THOMAS S. FULLER
NELDEL L. JONES
JAMES O. KIRK
LORRA ALBERTO MALEWSKI
NICHOLAS J. MELAS
AURELIA PUCINIKI
NANCY DREW SHEEHAN
RICHARD J. TROY

Cecil Lue-Hing

Director
Research & Development

NOTICE OF VIOLATION

THE METROPOLITAN SANITARY)
DISTRICT OF GREATER CHICAGO)
vs.)
CHEM CLEAR, INC.)
)
)
)

VIOLATION NO. 87-309S

SANITARY SEWER

TO: Mr. James Laubsted
Plant Manager
11800 South Stony Island Avenue
Chicago, Illinois 60617

Investigation has revealed that you have violated Appendix B of the Sewage and Waste Control Ordinance of the Metropolitan Sanitary District of Greater Chicago and the applicable Illinois law pertaining to pollution. Your violation consists of: discharging an effluent with excessive concentrations of lead, copper, zinc and iron to the sanitary sewerage system, as noted in the table below, all at Station 1A:

<u>Date</u>	<u>Time</u>	<u>Parameter</u>	<u>Analysis</u>
5/14/87	8.0-Hr. Composite	Lead	0.51 mg/L
5/27/87	24.0-Hr. Composite	Copper	3.6 mg/L
6/04/87	24.0-Hr. Composite	Zinc	33.6 mg/L
6/05/87 to 6/08/87	72.0-Hr. Composite	Zinc	23.1 mg/L
6/08/87	24.0-Hr. Composite	Lead	0.97 mg/L
6/22/87	24.0-Hr. Composite	Iron	50.1 mg/L
6/30/87	24.0-Hr. Composite	Lead	0.94 mg/L
7/01/87	24.0-Hr. Composite	Lead	0.89 mg/L

An owner or an officer of the respondent, authorized to legally bind the respondent, is directed to appear at the Industrial Waste Division, Enforcement Section, Third Floor, at 111 East Erie Street, Chicago, Illinois, on September 17, 1987 at 10:00 a.m. for a conciliation meeting, to discuss and attempt to resolve the violation and to submit, at that time, a plan and schedule for compliance. Direct phone inquiries should be made to Rion Klawinski at 751-3047.

THESE PROCEEDINGS ARE TECHNICAL AND NON-ADVERSARY IN NATURE. ANYONE APPEARING PURSUANT HERETO MAY APPEAR WITH LEGAL AND/OR TECHNICAL COUNSEL. YOUR FAILURE TO APPEAR IN RESPONSE TO THIS NOTICE WILL SUBJECT YOU TO SUCH LEGAL ACTIONS AND SANCTIONS AS ARE PROVIDED BY LAW.

Witnessed: August 13, 1987

The Metropolitan Sanitary District
of Greater Chicago

Frank E. Dalton, General Superintendent

BY:

Cecil Lue-Hing, D.Sc., P.E.
Director
Research and Development

PREPARED BY:

Jerome Tobias
Chief Enforcement Officer

CLH:RK:ib

CLH:RL:AJS:JT:RK:ib

PROOFREAD BY S. J. [Signature]
(Signature, Typist)

& R. Klawinski
(Signature, Writer)

DATE

8/12/87

CLEAN HARBOR INC, 11800 S STONY ISLAND, CHGO, SANITARY SEWER
DISCHARGE VIOLATIONS REPORT * YEAR TO DATE FOR CLN1S

0	SAMPLE NUMBER	2 SAMPLE TYPE	3 SAMPLE STATION	4 DATE	5 TIME	6 PARA- METER	7 VALUE	8 LIMIT(S)	9 UNITS	10 GRAB LIMIT	11 DAILY LIMIT	12 MONTHLY LIMIT
1	5625A	S	1A	03/28/90	C24	PH	10.40	5.0 TO 10.0	PH UNITS	OVER		
2	6447B	S	1A	05/25/90	C96	HG	12.80	15,6,3	UG/L		CHECK	CHECK
3	7104B	S	1A	05/31/90	C24	HG	6.80	15,6,3	UG/L		CHECK	CHECK
4	5026C	S	1A	07/18/90	C24	PB	0.82	0.5	MG/L	OVER		
5	8336C	S	1A	08/13/90	C24	HG	67.00	15,6,3	UG/L	OVER	CHECK	CHECK
6	1264D	S	1A	08/24/90	C71	HG	4.70	15,6,3	UG/L			CHECK
7	3611D	S	1A	09/12/90	C24	HG	3.40	15,6,3	UG/L			CHECK

CHEM CLEAR, 11800 S STONY ISLAND AVE, CHGO, SANITARY SEWER
DISCHARGE VIOLATIONS REPORT * YEAR TO DATE FOR CCL1S

0	1 SAMPLE NUMBER	2 SAMPLE TYPE	3 SAMPLE STATION	4 DATE	5 TIME	6 PARA- METER	7 VALUE	8 LIMIT(S)	9 UNITS	10 GRAB LIMIT	11 DAILY LIMIT	12 MONTHLY LIMIT
1	3111H	S	1A	01/18/90	C24	PH	11.40	5.0 TO 10.0	PH UNITS	OVER		
2	7899H	S	1A	02/09/90	1401	TOT CN	6.50		5 MG/L	OVER		
3	1000A	S	1A	02/27/90	1410	TOT CN	6.75		5 MG/L	OVER		
4	2621A	S	1A	03/09/90	1408	TOT CN	5.75		5 MG/L	OVER		

CHEM CLEAR, 11800 S STONY ISLAND AVE, CHGO, SANITARY SEWER
DISCHARGE VIOLATIONS REPORT * YEAR TO DATE FOR CCLIS

1	2	3	4	5	6	7	8	9	10	11	12
SAMPLE NUMBER	SAMPLE TYPE	SAMPLE STATION	DATE	TIME	PARA- METER	VALUE	LIMIT(S)	UNITS	GRAB LIMIT	DAILY LIMIT	MONTHLY LIMIT
1	6574C	S	1A	01/09/89	C23	CU	3.01	3.0	MG/L	OVER	
2	7183C	S	1A	01/18/89	C23	FOG	492.00	250.0	MG/L	OVER	
3	6903D	S	1A	04/10/89	C24	PB	0.60	0.5	MG/L	OVER	
4	8085D	S	1A	04/18/89	C23	PB	0.56	0.5	MG/L	OVER	
5	2843E	S	1A	05/17/89	C24	PH	10.10	5.0 TO 10.0	PH UNITS	OVER	
6	4031E	S	1A	05/30/89	C22	PH	10.50	5.0 TO 10.0	PH UNITS	OVER	
7	8889E	S	1A	07/14/89	C72	HG	16.00	15,6,3	UG/L	OVER	CHECK
8	9394E	S	1A	07/19/89	C24	PH	10.40	5.0 TO 10.0	PH UNITS	OVER	
9	4167F	S	1A	08/21/89	C25	HG	5.50	15,6,3	UG/L		CHECK

CHEM CLEAR, 11800 S STONY ISLAND AVE, CHGO. SANITARY SEWER FID-23202481300

DISCHARGE VIOLATIONS REPORT * YEAR TO DATE FOR CCL15

0	1 SAMPLE NUMBER	2 SAMPLE TYPE	3 SAMPLE STATION	4 DATE	5 TIME	6 PARA- METER	7 VALUE	8 LIMIT(S)	9 UNITS	10 GRAB LIMIT	11 DAILY LIMIT	12 MONTHLY LIMIT
1	8677H	S	1A	01/07/88	C24	FOG	262.00	250.0	MG/L	OVER		
2	8713H	S	1A	01/08/88	C24	FOG	262.00	250.0	MG/L	OVER		
3	8893H	S	1A	01/12/88	C24	FOG	282.00	250.0	MG/L	OVER		
4	8960H	S	1A	01/13/88	C24	FOG	417.00	250.0	MG/L	OVER		
5	8960H	S	1A	01/13/88	C24	FE	62.90	50.0	MG/L	OVER		
6	8960H	S	1A	01/13/88	C24	PB	1.61	0.5	MG/L	OVER		
7	9032H	S	1A	01/14/88	C24	FOG	486.00	250.0	MG/L	OVER		
8	9076H	S	1A	01/15/88	C24	PH	10.10	5.0 TO 10.0	PH UNITS	OVER		
9	9076H	S	1A	01/15/88	C24	FOG	374.00	250.0	MG/L	OVER		
10	9124H	S	1A	01/18/88	C24	PH	10.30	5.0 TO 10.0	PH UNITS	OVER		
11	9203H	S	1A	01/19/88	C24	PH	10.30	5.0 TO 10.0	PH UNITS	OVER		
12	9671H	S	1A	01/27/88	C24	FOG	267.00	250.0	MG/L	OVER		
13	9774H	S	1A	01/29/88	C24	FOG	332.00	250.0	MG/L	OVER		
14	9954H	S	1A	02/02/88	C24	PH	10.10	5.0 TO 10.0	PH UNITS	OVER		
15	1008A	S	1A	02/03/88	C24	PH	10.40	5.0 TO 10.0	PH UNITS	OVER		
16	1142A	S	1A	02/05/88	C72	PH	10.30	5.0 TO 10.0	PH UNITS	OVER		
17	1209A	S	1A	02/08/88	C24	FOG	379.00	250.0	MG/L	OVER		
18	1209A	S	1A	02/08/88	C24	CU	4.17	3.0	MG/L	OVER		
19	1209A	S	1A	02/08/88	C24	NI	11.80	10.0	MG/L	OVER		
20	4525A	S	1A	04/04/88	C24	TOT CN	5.85	5.0	MG/L	OVER		
21	4668A	S	1A	04/05/88	C24	TOT CN	6.50	5.0	MG/L	OVER		
22	7793A	S	1A	05/18/88	C24	TOT CN	7.00	5.0	MG/L	OVER		
23	8309A	S	1A	05/25/88	C24	FOG	570.00	250.0	MG/L	OVER		
24	8309A	S	1A	05/25/88	C24	HG	4.10	15,6,3	UG/L		CHECK	
25	8569A	S	1A	05/31/88	C19	FOG	402.00	250.0	MG/L	OVER		
26	9567A	S	1A	06/13/88	C24	PH	10.30	5.0 TO 10.0	PH UNITS	OVER		
27	3293B	S	1A	07/15/88	C72	TOT CN	5.21	5.0	MG/L	OVER		
28	3514B	S	1A	07/19/88	C24	PH	10.20	5.0 TO 10.0	PH UNITS	OVER		
29	3514B	S	1A	07/19/88	C24	TOT CN	10.70	5.0	MG/L	OVER		
30	3632B	S	1A	07/20/88	C24	TOT CN	5.68	5.0	MG/L	OVER		
31	4843B	S	1A	08/04/88	C24	ZN	16.20	15.0	MG/L	OVER		
32	4843B	S	1A	08/04/88	C24	CU	4.15	3.0	MG/L	OVER		
33	4843B	S	1A	08/04/88	C24	PB	0.83	0.5	MG/L	OVER		
34	5135B	S	1A	08/09/88	C11	PH	10.20	5.0 TO 10.0	PH UNITS	OVER		
35	5562B	S	1A	08/15/88	C24	NI	10.70	10.0	MG/L	OVER		
36	5946B	S	1A	08/19/88	C54	ZN	42.40	15.0	MG/L	OVER		
37	5946B	S	1A	08/19/88	C54	CU	30.20	3.0	MG/L	OVER		
38	5946B	S	1A	08/19/88	C54	TOT CR	50.80	25.0	MG/L	OVER		
39	5946B	S	1A	08/19/88	C54	FE	350.00	50.0	MG/L	OVER		
40	5946B	S	1A	08/19/88	C54	NI	23.20	10.0	MG/L	OVER		
41	5946B	S	1A	08/19/88	C54	PB	1.68	0.5	MG/L	OVER		
42	6229B	S	1A	08/24/88	C24	NI	12.20	10.0	MG/L	OVER		
43	6950B	S	1A	09/06/88	C24	PB	0.57	0.5	MG/L	OVER		
44	8696B	S	1A	09/27/88	C24	HG	4.00	15,6,3	UG/L		CHECK	
45	8807B	S	1A	09/28/88	C24	TOT CN	6.55	5.0	MG/L	OVER		
46	8807B	S	1A	09/28/88	C24	HG	5.90	15,6,3	UG/L		CHECK	
47	8931B	S	1A	09/29/88	C24	PH	10.90	5.0 TO 10.0	PH UNITS	OVER		
48	8931B	S	1A	09/29/88	C24	TOT CN	11.70	5.0	MG/L	OVER		
49	8931B	S	1A	09/29/88	C24	HG	6.10	15,6,3	UG/L		CHECK	CHECK

CHEN CLEAN, 11800 S STONY ISLAND AVE, CHGO, SANITARY SEWER FID-2320248-1300
DISCHARGE VIOLATIONS REPORT * YEAR TO DATE FOR CCL15

0	1 SAMPLE NUMBER	2 SAMPLE TYPE	3 SAMPLE STATION	4 DATE	5 TIME	6 PARA- METER	7 VALUE	8 LIMIT(S)	9 UNITS	10 GRAB LIMIT	11 DAILY LIMIT	12 MONTHLY LIMIT
50	9152B	S	1A	10/03/88	C24	PB	1.96	0.5	MG/L	OVER		
51	9261B	S	1A	10/04/88	C24	PB	1.39	0.5	MG/L	OVER		
52	9357B	S	1A	10/05/88	C24	HG	4.80	15,6,3	UG/L			CHECK
53	9511B	S	1A	10/06/88	C24	HG	4.70	15,6,3	UG/L			CHECK
54	9608B	S	1A	10/07/88	C72	TOT CN	8.50	5.0	MG/L	OVER		
55	9608B	S	1A	10/07/88	C72	PB	0.78	0.5	MG/L	OVER		
56	9608B	S	1A	10/07/88	C72	HG	8.20	15,6,3	UG/L		CHECK	CHECK
57	9794B	S	1A	10/11/88	C24	FE	70.10	50.0	MG/L	OVER		
58	9794B	S	1A	10/11/88	C24	PB	0.70	0.5	MG/L	OVER		
59	3146C	S	1A	11/10/88	C96	FOG	340.00	250.0	MG/L	OVER		
60	3314C	S	1A	11/21/88	C24	HG	3.20	15,6,3	UG/L			CHECK
61	3921C	S	1A	11/22/88	C24	HG	5.30	15,6,3	UG/L			CHECK
62	4639C	S	1A	12/05/88	C24	FOG	497.00	250.0	MG/L	OVER		
63	5896C	S	1A	12/21/88	C24	FOG	326.00	250.0	MG/L	OVER		
64	6191C	S	1A	12/29/88	C120	FOG	299.00	250.0	MG/L	OVER		

CHEM CLEAR, 11800 S STONY ISLAND AVE, CHGO, SANITARY SEWER FID-23202484300
DISCHARGE VIOLATIONS REPORT * YEAR TO DATE FOR CCLIS

0	1 SAMPLE NUMBER	2 SAMPLE TYPE	3 SAMPLE STATION	4 DATE	5 TIME	6 PARA- METER	7 VALUE	8 LIMIT(S)	9 UNITS	10 GRAB LIMIT	11 DAILY LIMIT	12 MONTHLY LIMIT	...
1	7562F	U	1A	1/20/87	C22	PB	0.73	0.5	MG/L	OVER			
2	7612F	U	1A	1/22/87	C24	PB	1.05	0.5	MG/L	OVER			
3	7614F	U	1A	1/23/87	C72	PB	0.52	0.5	MG/L	OVER			
4	7765F	U	1A	1/26/87	C24	PH	10.50	5.0 TO 10.0	PH UNITS	OVER			
5	7769F	U	1A	1/28/87	C25	PH	10.20	5.0 TO 10.0	PH UNITS	OVER			
6	8100F	U	1A	2/4/87	C24	PH	10.20	5.0 TO 10.0	PH UNITS	OVER			
7	8755F	U	1A	2/17/87	C24	PH	10.10	5.0 TO 10.0	PH UNITS	OVER			
8	1356G	U	1A	3/18/87	C24	FE	70.20	50.0	MG/L	OVER			
9	2383G	U	1A	4/8/87	C24	HG	4.00	15,6,3	UG/L			CHECK	
10	4416G	S	1A	5/14/87	C8	PB	0.51	0.5	MG/L	OVER			
11	4972G	S	1A	5/27/87	C21	CU	3.60	3.0	MG/L	OVER			
12	5519G	S	1A	6/4/87	C24	ZN	33.60	15.0	MG/L	OVER			
13	5598G	S	1A	6/5/87	C72	ZN	23.10	15.0	MG/L	OVER			
14	5665G	S	1A	6/8/87	C24	PB	0.97	0.5	MG/L	OVER			
15	6505G	S	1A	6/22/87	C24	FE	50.10	50.0	MG/L	OVER			
16	7100G	S	1A	6/30/87	C24	PB	0.94	0.5	MG/L	OVER			
17	7143G	S	1A	7/1/87	C24	PB	0.89	0.5	MG/L	OVER			
18	8765G	S	1A	7/30/87	C24	CU	3.56	3.0	MG/L	OVER			
19	1365H	S	1A	8/31/87	C24	FOG	272.00	250.0	MG/L	OVER			
20	1476H	S	1A	9/1/87	C24	CU	4.63	3.0	MG/L	OVER			
21	1712H	S	1A	9/8/87	C24	RR CN	2.52	2.0	MG/L	OVER			
22	1796H	S	1A	9/9/87	C24	PB	0.76	0.5	MG/L	OVER			
23	1871H	S	1A	9/10/87	C24	RR CN	2.40	2.0	MG/L	OVER			
24	3246H	S	1A	9/18/87	C24	CU	5.38	3.0	MG/L	OVER			
25	5080H	S	1A	10/19/87	C23.5	CU	4.54	3.0	MG/L	OVER			
26	5845H	S	1A	11/2/87	C24	CU	11.00	3.0	MG/L	OVER			
27	6205H	S	1A	11/9/87	C24	FE	51.90	50.0	MG/L	OVER			
28	6809H	S	1A	11/19/87	C24	FE	55.80	50.0	MG/L	OVER			
29	7008H	S	1A	11/24/87	C24	FOG	373.00	250.0	MG/L	OVER			
30	7008H	S	1A	11/24/87	C24	ZN	19.50	15.0	MG/L	OVER			
31	7008H	S	1A	11/24/87	C24	FE	51.20	50.0	MG/L	OVER			
32	7042H	S	1A	11/25/87	C24	TOT CN	10.05	10.0	MG/L	OVER			
33	7238H	S	1A	12/1/87	C24	FOG	543.00	250.0	MG/L	OVER			
34	7238H	S	1A	12/1/87	C24	CU	4.50	3.0	MG/L	OVER			
35	7238H	S	1A	12/1/87	C24	FE	65.20	50.0	MG/L	OVER			
36	7238H	S	1A	12/1/87	C24	PB	0.60	0.5	MG/L	OVER			

CHEM CLEAR, 11800 S STONY ISLAND AVE, CHGO, SANITARY SEWER FID-23202494300
DISCHARGE VIOLATIONS REPORT * YEAR TO DATE FOR CCLIS

1	2	3	4	5	6	7	8	9	10	11
SAMPLE NUMBER	SAMPLE TYPE	SAMPLE STATION	DATE	TIME	PARA- METER	VALUE	LIMIT(S)	UNITS	GRAB OR SOLO LIMIT	DAILY COMP LIMIT
1	9630D	S	1A	1/2/86	C13.66	FE	59.10	50.0	MG/L	OVER
2	9630D	S	1A	1/2/86	C13.66	PB	1.59	0.5	MG/L	OVER
3	9636D	S	1A	1/6/86	C23	PB	0.80	0.5	MG/L	OVER
4	9734D	S	1A	1/7/86	C15.33	PB	0.51	0.5	MG/L	OVER
5	9780D	S	1A	1/8/86	C20	FOG	328.00	250.0	MG/L	OVER
6	9931D	S	1A	1/13/86	C18	FOG	377.00	250.0	MG/L	OVER
7	1215E	S	1A	1/21/86	C24	FOG	260.00	250.0	MG/L	OVER
8	1215E	S	1A	1/21/86	C24	PB	1.04	0.5	MG/L	OVER
9	1270E	S	1A	1/22/86	C24	PB	1.38	0.5	MG/L	OVER
10	1416E	S	1A	1/27/86	C23	FOG	413.00	250.0	MG/L	OVER
11	1556E	S	1A	1/30/86	C25	FOG	786.00	250.0	MG/L	OVER
12	1802E	S	1A	2/5/86	C24	FOG	301.00	250.0	MG/L	OVER
13	802E	S	1A	2/5/86	C24	CU	5.46	3.0	MG/L	OVER
14	464E	S	1A	2/24/86	C24	PB	1.74	0.5	MG/L	OVER
15	2529E	S	1A	2/25/86	C24	PB	2.15	0.5	MG/L	OVER
16	2930E	S	1A	3/5/86	C27	FOG	278.00	250.0	MG/L	OVER
17	5059E	S	1A	4/25/86	C72	PB	0.73	0.5	MG/L	OVER
18	3123E	S	1A	7/1/86	C24	TOT CN	10.80	10.0	MG/L	OVER
19	3227E	S	1A	7/2/86	C24	TOT CN	17.00	10.0	MG/L	OVER
20	1909F	S	1A	8/25/86	C24	HG	5.70	15,6,3	UG/L	
21	2306F	S	1A	9/4/86	C24	FOG	333.00	250.0	MG/L	OVER
22	2960F	S	1A	9/19/86	C72	PH	4.70	5.0 TO 10.0	PH UNITS	UNDER
23	93F	U	1A	11/5/86	C24	FE	58.80	50.0	MG/L	OVER
24	4961F	U	1A	11/6/86	C24	RR CN	4.65	2.0	MG/L	OVER

CHEM CLEAR, 11800 S STONY ISLAND AVE, CHGO, SANITARY SEWER FID-23202484300
DISCHARGE VIOLATIONS REPORT * YEAR TO DATE FOR CCLIS

0 12 MONTHLY
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CHECK

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SUITE 915 • 992 OLD EAGLE SCHOOL ROAD • WAYNE, PENNSYLVANIA 19087 • (215) 687-8990

RECEIVED

June 19, 1985

JUN 21 1985

Mr. Wayne Pearson
RCRA Activities
U.S. EPA, Region V
P.O. Box A-3587
Chicago, IL 60690

SWB-AJS
U.S. EPA REGION V

RECEIVED

JUL 25 1985

IEPA-DLPC

Dear Mr. Pearson:

Thank you for your telephone call of introduction last week. As promised, I have enclosed the completed Certification Regarding Potential Releases from Solid Waste Management Units for ChemClear's Chicago facility.

Only a single release of material from hazardous waste management unit has occurred during the operation of this facility. On January 6, 1985 approximately 100,000 gallons of sludge was spilled inside of the lined tank farm and the process/office building. The entire area of the spill was contained and the recovered sludge was returned to a sound tank.

If you should require additional information related to this matter or desire clarification on any aspect of our Part B application, please feel free to call me.

Sincerely,



Ruth C. Niesen
Environmental Coordinator

RCN/job

Enclosures

cc: Greg Valocchi, Plant Manager
Jim Laubsted, Plant Engineer

COPY 2

CERTIFICATION REGARDING POTENTIAL RELEASES FROM
SOLID WASTE MANAGEMENT UNITS

FACILITY NAME: ChemClear, Incorporated
EPA I.D. NUMBER: ILD 000608471
LOCATION CITY: Chicago
STATE: Illinois

1. Are there any of the following solid waste management units (existing or closed) at your facility? NOTE - DO NOT INCLUDE HAZARDOUS WASTES UNITS CURRENTLY SHOWN IN YOUR PART B APPLICATION

	<u>YES</u>	<u>NO</u>
• Landfill	_____	<u>X</u>
• Surface Impoundment	_____	<u>X</u>
• Land Farm	_____	<u>X</u>
• Waste Pile	_____	<u>X</u>
• Incinerator	_____	<u>X</u>
• Storage Tank (Above Ground)	_____	<u>X</u>
• Storage Tank (Underground)	_____	<u>X</u>
• Container Storage Area	_____	<u>X</u>
• Injection Wells	_____	<u>X</u>
• Wastewater Treatment Units	_____	<u>X</u>
• Transfer Stations	_____	<u>X</u>
• Waste Recycling Operations	_____	<u>X</u>
• Waste Treatment, Detoxification	_____	<u>X</u>
• Other _____	_____	_____

2. If there are "Yes" answers to any of the items in Number 1 above, please provide a description of the wastes that were stored, treated or disposed of in each unit. In particular, please focus on whether or not the wastes would be considered as hazardous wastes or hazardous constituents under RCRA. Also include any available data on quantities or volume of wastes disposed on and the dates of disposal. Please also provide a description of each unit and include capacity, dimensions, location at facility, provide a site plan if available.
- _____
- _____
- _____
- _____

NOTE: Hazardous waste are those identified in 40 CFR 261. Hazardous constituents are those listed in Appendix VIII Of 40 CFR Part 261.

3. For the units noted in Number 1 above and also those hazardous waste units in your Part B application, please describe for each unit any data available on any prior or current releases of hazardous wastes or constituents to the environment that may have occurred in the past or still be occurring.

Please provide the following information

- a. Date of release
- b. Type of waste released
- c. Quantity or volume of waste released
- d. Describe nature of release (i.e., spill, overflow, ruptured pipe or tank, etc.)

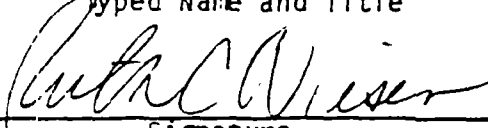
On January 6, 1985 approximately 100,000 gallons of metal hydroxide sludge was spilled inside of the process/office building and inside of the pvc-lined tank farm due to the rupture of the pipeline leading from the sludge concentrator to the filter press. All sludge was contained and did not contact groundwater or soil outside of the tank farm.

All sludge has been removed from the process/office building returned to the sludge concentrator and there has been no release of hazardous wastes or constituents to the environment.

4. In regard to the prior releases described in Number 3 above, please provide (for each unit) any analytical data that may be available which would describe the nature and extent of environmental contamination that exists as a result of such releases. Please focus on concentrations of hazardous wastes or constituents present in contaminated soil or groundwater.
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I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the submittal is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. (42 U.S.C. 6902 et seq. and 40 CFR 270.11(d))

Ruth C. Niesen, Environmental Coordinator
Typed Name and Title


Signature

June 13, 1985
Date

State of Illinois
Environmental Protection Agency
Division of Air Pollution Control

Date of Call 11/8/83
Time of Call 2:51
Received by E.O.

COMPLAINT RECORD

Suspect Source Information:

Name Chem-Clear
Address 11800 S. Stonew Island
City, Zip Chicago Ill.
Area Code/Phone 646-6202
I.D. # 031 600 BTE

Complainant Information:

Name John Schlossberg
Address 12100 S. Stonew Island
City, Zip Chicago
Area Code/Phone 646-2100

Type of Complaint: ☐ Dust ☐ Odors ☐ Smoke ☒ Other Vapor

Nature of Complaint: Orange-Brown-Yellow color vapors being emitted from a truck unloading at Chem-Clear. No noticeable odor. Wind condition is causing the vapor cloud to be diverted away from the complainant. However, the complainant is worried about the makeup of the vapor. Wishes to be called back.

Referred to: ☒ Unit A ☐ Unit B ☐ Unit C ☐ Other _____

Comments: Called Chem-Clear, spoke to Mr. Coney Valocchi. The emissions occurred when a truck containing plating waste could not unload its waste due to a stuck valve. A second truck from the same carrier that contained waste water from a laquer, after unloading his material, decided that based on initial lab reports he would help unload the first truck by pumping the material into his truck and then into the holding pit. Due to this action, an unforeseen reaction had occurred.

☐ DISTRIBUTION: Original and Copy - Unit Supervisor Copy - Wang
causing the known plume. The duration of the incident was ten minutes -
KK/rs/1254A (9/08/83)

to the need of outfitting a worker with protective equipment in order to shut off the pump. Facility believes it was caused by oil and grease

oxide. The facility is now doing lab tests in order to determine exactly what happened and what the vapor was. Lab samples of the two mixtures, when mixed did not fume.

• Guess is that there may be some residue material in the valve of the second, probably a waste oil or grease.

Will open up the trailer hatch to determine if any more fumes present. If they are, they will fill the truck with water to clear the fumes.

Cracked open truck, found some residue of the gas in the truck. Chemist believes that is nitrogen dioxide. What is in the truck is not that much in volume. What they plan to do is to pressurize the truck in order to bubble the gas through the water to form ~~the nitrous~~ nitric acid.

cc Zamco
Berinto

CHEM-CLEAR[®]

(312) 646-6282

11800 S. STONY ISLAND AVENUE
CHICAGO, ILLINOIS 60617

031600BTE

031600

December 20, 1983

RECEIVED
CHICAGO OFFICE

DEC 22 1983

Illinois Environmental Protection Agency
Division of Air Pollution Control
1701 South First Avenue
Maywood, IL 60153

ENVIRONMENTAL PROTECTION AGENCY
STATE OF ILLINOIS

Attn: Edward J. Osowski
Field Operations Section

Dear Ed:

On November 8, 1983 an incident occurred on the Chem-Clear property at 11800 South Stony Island Avenue, Chicago which resulted in an air emission. The following summary will attempt to explain to the best of our ability what transpired.

At approximately 3:30 PM on November 8, 1983 a truck owned and operated by Chemical Services (4601 W. 138th St., Crestwood, IL) entered the Chem-Clear treatment facility. This truck (SNH Registration 1301005) was carrying a load of Sulfuric/Nitric Acid generated by Arlington Plating (600 S. Vermont, Palatine, IL) (manifest & perspective analysis attached).

When the driver opened the hatch on top of the truck, for the purpose of sampling the waste, a cloud, orangish in color, streamed from the open truck. The driver climbed down from the tanker and one of Chem-Clear's operators (Robert Sheahan), waiting to sample the load, went to our lab and requested that the chemist (Ellen Riley) look at the truck. Ellen, after viewing the plume from the truck, came into the office and informed me of what she thought was occurring. I immediately went to the truck pad and had our operator put on a respirator and climb up the tanker and close the hatch.

Your call to us occurred somewhere during the tail end of the above. Once the truck was secure the chemist and myself looked at the background analysis of the waste, called Chemical Services (Charles Wessels) and attempted to surmise what was chemically occurring. The general consensus was that nitrogen dioxide was being released from the truck.

Chem-Clear had cleaned and rinsed pit #2 to receive this load due to its nitric content for the offloading, earlier in the day.

Once our conclusions were in order a solution, or solutions were tabled. The truck in question could not offload because the safety valve stem was damaged (assumption's the acid waste in the load worked through the packing and attacked the valve stem). The load was transferred from the truck to another Chemical Service truck, which came on site at this time. The second truck off loaded the Arlington waste into our pit #2. During the offloading the pipe from the internal to the external valve was corroded and developed a leak. Offloading stopped until a piece of 6" PVC was slipped over the hose and joint and offloading was finished. This truck was thoroughly flushed with water and received into pit #1 for treatment.

All during the above the original truck was left untouched until we could direct our attention toward a solution.

The original truck's hatch was opened to ascertain whether or not a gaseous problem still existed. A less intense cloud was observed. A hose (water) was inserted into the hatch and the hatch was pulled snug. The truck was filled with water and once again emptied via truck #2.

The damaged valve of the original truck was replaced at this time and both trucks were thoroughly rinsed.

At no time during the entire rectification process was either myself and a representative of Chemical Services not on the scene. All personnel involved were properly equipped (gloves, respirators etc.). All operations were performed on the truck pad which is properly constructed to collect any liquid waste fall out.

We at Chem-Clear fully understand the potential severity of an unchecked air emission of this nature, however given the alternative of rejecting the load and sending the problem elsewhere Chem-Clear felt it was better equipped to solve rather than to ignore. The cooperation of Chemical Services was commendable and the attention of the Division of Air Pollution Control during the corrective action time was appreciated.

If any additional clairification is needed this office is more than willing to provide any data requested.

Sincerely,

Gregory E. Valocchi 11b

Gregory E. Valocchi
General Manager
Chicago Facility

GEV/1b



Illinois Environmental Protection Agency · P O Box 19276, Springfield, IL 62794-9276

217/782-6762

Refer to: 0316000051 -- Cook County
Clean Harbors of Chicago, Inc.
ILD000608471
Permit No.: 1980-36-OP
Log No's.: 1990-478 (1990-476, 1990-277, 1990-250, 1990-156,
1990-155, 1990-007, 1989-237, 1984-759, 1985-219, 1986-083,
1986-101, 1986-145, 1987-022, 1988-294, 1989-007, 1989-173)
Permit File

October 22, 1981
Revised December 20, 1990

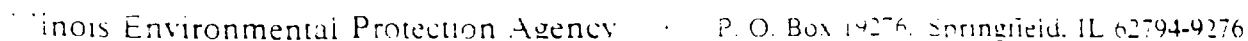
Clean Harbors of Chicago, Inc.
ATTN: James R. Laubsted
11800 South Stony Island Avenue
Chicago, Illinois 60617

Gentlemen:

Permit is hereby granted to Clean Harbors, to operate a solid waste management site located on 26.5 acres in that part of the East 1/4 of fractional Section 23 and of the West 1/2 of Section 24, all in Township 37N, Range 14E of the 3rd P.M., south of the Indian Boundary Line and that part of Lake Calumet in said Township and Range, as more specifically described in the original application for a development permit.

Final plans, specifications, application(s) and supporting documents as submitted and approved shall constitute part of this permit and are identified on the records of the Illinois Environmental Protection Agency, Division of Land Pollution Control by the permit number(s) and log number(s) designated in the heading above. The permit is issued subject to the standard conditions attached hereto and incorporated herein by reference, and further subject to the following special conditions:

1. This permit allows Clean Harbors to operate the following units:
 - A. Four (4) 7,000 gallon in-ground, lines concrete receiving tanks.
 - B. A 200,000 gallon steel, primary settling tank.
 - C. A 400,000 gallon steel, mix tank.
 - D. A chemical treatment unit (IPSI Model #SAL2-100).
 - E. Three (3) gravitators/clarifiers (IPSI Model #ESS-075).
 - F. A 4,000 gallon steel, effluent collection tank.
 - G. A 175,000 gallon steel, effluent discharge tank.



U.	Unit Designation	Size	# of Drums
	Container Storage Area		
a.	(within Process Building #2)		
	i) Staging area	20 x 26	72
	ii) Acidic drums area	29 x 26	192
	iii) Alkaline drums area	12 x 26	96
	iv) Organic drums area	24 x 26	192
b.	outside storage area #1 (for development only)		
	i) Medical waste	20 x 50	400



c. outside storage area #2 (for development only)

i) Staging area	41 x 51	80
ii) Oxidizers	20 x 30	96
iii) Reactives	20 x 30	96
iv) Poisons	20 x 30	96
v) Flammable #1	50 x 42	160
vi) Flammable #2	50 x 42	160

No waste may be received for the outside storages area until such time as an operating permit is issued by this Division for each area.

2. The treated effluent shall meet the requirements specified by the Metropolitan Sanitary District of Greater Chicago and this Agency's Division of Water Pollution Control, including Permit No. 1986-EP-1157.
3. The facility is permitted to accept for storage and treatment liquid hazardous and special wastes with these parameters and within the following limitations:

ph	Range 0 to 14
Suspended Solids	up to 10%
Arsenic	10,000 ppm
Barium	10,000 ppm
Cadmium	10,000 ppm
Chromium	250,000 ppm
Copper	150,000 ppm
Iron	200,000 ppm
Lead	150,000 ppm
Nickel	150,000 ppm
Phenol	50,000 ppm
Selenium	10,000 ppm
Silver	10,000 ppm
Zinc	180,000 ppm
Cyanide	1,000 ppm
Mercury	1.0 ppm
Sulfide (reactive)	20,000 ppm

The facility is also permitted to accept for storage and treatment for purposes of dewatering solely non-hazardous semi-solids and sludges.

4. The concentrations of Mercury in the wastes accepted for treatment shall not exceed 3 ppb unless Clean Harbors demonstrates that their treatment is effective for that particular waste stream in reducing the concentration of Mercury below this criteria. Documentation of the demonstration shall be maintained at the facility and shall be made available for inspection upon request.
5. Wastes containing any amount of the following items shall not be permitted for acceptance at the facility: PCB, PBB, Insecticides and Pesticides.



5. Wastes containing solvents of a quantity sufficient to render the waste ignitable or explosive shall not be permitted for treatment at the facility. Aqueous wastes containing treatment levels of organics may not be accepted at this facility unless a treatment demonstration is made to the Agency in the form of an attachment to the special waste stream permit application(s) submitted to the Agency for review and approval.
7. Special wastes received at the site for storage and treatment shall be transported to the facility utilizing the Agency's supplemental waste stream permit and manifest systems.
8. Special wastes generated at the facility for disposal, storage, incineration, recovery or further treatment elsewhere shall be transported to the receiving facility utilizing the Agency's supplemental waste stream permit and manifest systems.
9. This facility shall be operated in accordance with this Agency's Division of Air Pollution Control Permit Number 83120017.
10. All loading/unloading of special wastes shall be accomplished over spill containment devices.
11. Any modification to the facility shall be subject of an application for supplemental permit for site modification submitted to this Agency.
12. Permittee shall notify the Agency of any changes from the information submitted to the Agency in its application for a developmental and operating permit for this site. Permittee shall notify the Agency of any changes in the names and addresses of both beneficial and legal titleholders, to the herein permitted site. Such notification shall be made in writing within fifteen (15) days of such change and shall include the name or names of any parties in interest and the address of their place of abode; or if a corporation, the names and address of its registered agent.
13. This permit is issued subject to review and modification by the Agency as deemed necessary to fulfill the intent and purpose of the Illinois Environmental Protection Act and all applicable environmental rules and regulations.
14. The new units shall not be constructed and operated until such time that a permit has been issued by the Division of Air Pollution Control for their construction and operation.
15. The new reactors shall be constructed in accordance with ASTM 3299 or its equivalency.
16. The Permittee shall inspect the tanks handling hazardous waste (i.e. tanks involved in receiving, storing, and treating the hazardous waste) and the chemical storage tank for sodium hydroxide yearly to assess their condition. This inspection shall consist of the visual inspections subject to the following modifications:



- a. Tanks shall be entered in accordance with 20 CFR 1910.41(d)(11).
 - b. A detailed visual inspection of the tank's interior shall be conducted on an annual basis to ensure the tank's integrity. During this internal inspection, the interior surface shall be inspected for softening, indentations, cracks, exposed fibers, aging, checking, lack of surface resin, delamination, translucency/discoloration, air bubbles and thin areas. Corrective action as specified by the manufacturer of these tanks shall be taken if the internal inspection indicates that the interior surface of a tank system has been detrimentally affected by the hazardous wastes which have been stored, or treated in it.
 - c. A leak test or other integrity assessment as approved by the Agency shall be conducted annually on the ancillary equipment.
 - d. The annual inspection of each tank shall be certified by a qualified, independent, registered professional engineer.
 - e. All waste and washwater generated during evacuation of the tanks shall be managed as a hazardous waste.
 - f. If the results of these inspections indicate a tank system is leaking, the permittee must cease using the tank until it is repaired or replaced.
 - g. Results of the inspection shall be maintained onsite and made available to the Agency upon request.
17. The Permittee shall submit a plan for determining the compatibility between the wastes which are proposed to be received. This shall be submitted at the time that an application for operating the drum storage area is submitted.
 18. A container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste.
 19. A container holding hazardous waste must not be opened, handled or stored in a manner which may rupture the container or cause it to leak.
 20. The container in the storage areas must be arranged so that a 2 foot aisle space exists for inspection. Furthermore, containers may only be stored in rows two abreast.
 21. The container storage areas must be inspected daily for signs of cracks or gaps in the base. Containers must be removed from areas which are showing structural deficiency until such time that the area has been repaired.



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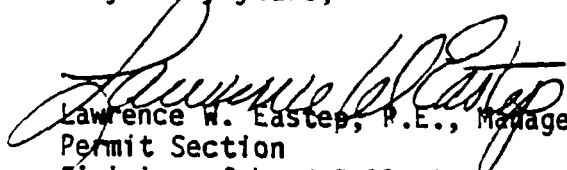
22. The approval of the design of these container storage areas does not imply that these areas are designed in compliance with 35 IAC 724.
23. All wastes received at the facility shall be reviewed for compatibility using the methods and procedures described in "A Method for Determining the Compatibility of Hazardous Waste" USEPA document EPA-600/2-80-076 dated April 1980, in addition to the facilities approved waste analysis plan. The Permittee shall not store containers holding waste that is incompatible with any waste or other materials stored nearby unless it is separated from the other material and protected from them by means of a dike, berm or other device.
24. All lab packs shall be opened within the confines of an operating fume hood.
25. A packing list identifying all hazardous waste classes inside of a lab pack must be attached to its outside container prior to it being placed into storage.
26. Only lab packs packaged in accordance with 49 CFR 173.12 may be received at this site for temporary storage, repackaging/consolidation of compatible materials for onsite treatment, or treatment/disposal offsite at permitted facilities.
27. Fume hoods shall be constructed in accordance with the practices recommended by ACGIH Committee on Industrial Ventilation.
28. Ventilation of the lab pack area must be in accordance with 29 CFR 1910.1000.
29. The new line storage silo and ferric chloride storage tank shall not be constructed and operated until all necessary permits from the Division of Water Pollution Control and Air Pollution Control have also been obtained.
30. The collection of precipitation and run-on within the concrete containment area around the medical waste storage area shall be removed as soon as possible and processed through the treatment plant.
31. The facility may only accept wastes in outside storage area #1 which meet the definition of hazardous (infectious) hospital waste as defined in 35 IAC 809.901 or medical waste as defined in 40 CFR 359.30. All wastes received at this facility must be managed as hazardous (infectious) hospital waste. This facility is not permitted to receive any RCRA hazardous waste as defined by 35 IAC 721.103, radioactive waste, mixed waste, or asbestos waste. The facility may only accept the following chemotherapy wastes: gloves, gowns, absorbent pads, empty vials, empty syringes, and empty tubing.



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32. All wastes in outside storage area #1 shall be stored in an area where the ambient temperature is less than 45° degrees Fahrenheit except when conducting waste transfer operations to avoid putrescible conditions. During waste transfer operations at no time shall the surface temperature of the waste containers be permitted to rise above 60° degrees Fahrenheit.
33. Any area in the concrete containment area contaminated by a spill or leak from a medical waste container shall be disinfected in accordance with the truck decontamination procedure.
34. The coating in the outside storage area #2 shall be inspected for signs of deterioration after each spill and shall be touched up (i.e. the coating reapplied in the area) if such signs are present.
35. All medical wastes shall be packaged in accordance with the requirement set forth in 77 Illinois Administrative Code 250.1720(g)(4).
36. A vector control specialist shall inspect the outside storage area #1 at least quarterly. If necessary, vector control measures shall be taken. The results of these inspections shall be maintained as part of the facility's operating record and be made available to the Agency upon written or verbal request.
37. The facility shall maintain a daily operating record. The operating record must be able to track waste streams as they pass through the facility. It must have the following entries for each shipment of waste received:
 - . A unique identification number for each container received.
 - . The generator's name and location.
 - . The date and time of arrival.
 - . The amount received.
 - . The date treated or shipped offsite.

Very truly yours,


Lawrence H. Eastep, P.E., Manager
Permit Section
Division of Land Pollution Control

LWE:MS:rlc/3917n,46-53

cc: Northern Region
Compliance Monitoring Section
Division File

HEARING NOTES

HYON WASTE MANAGEMENT -
11700 Stony Island Ave.
Chicago

LIQUID WASTE TREATMENT

DATE -

January 22, 1973

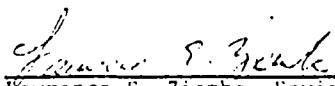
IN ATTENDANCE -

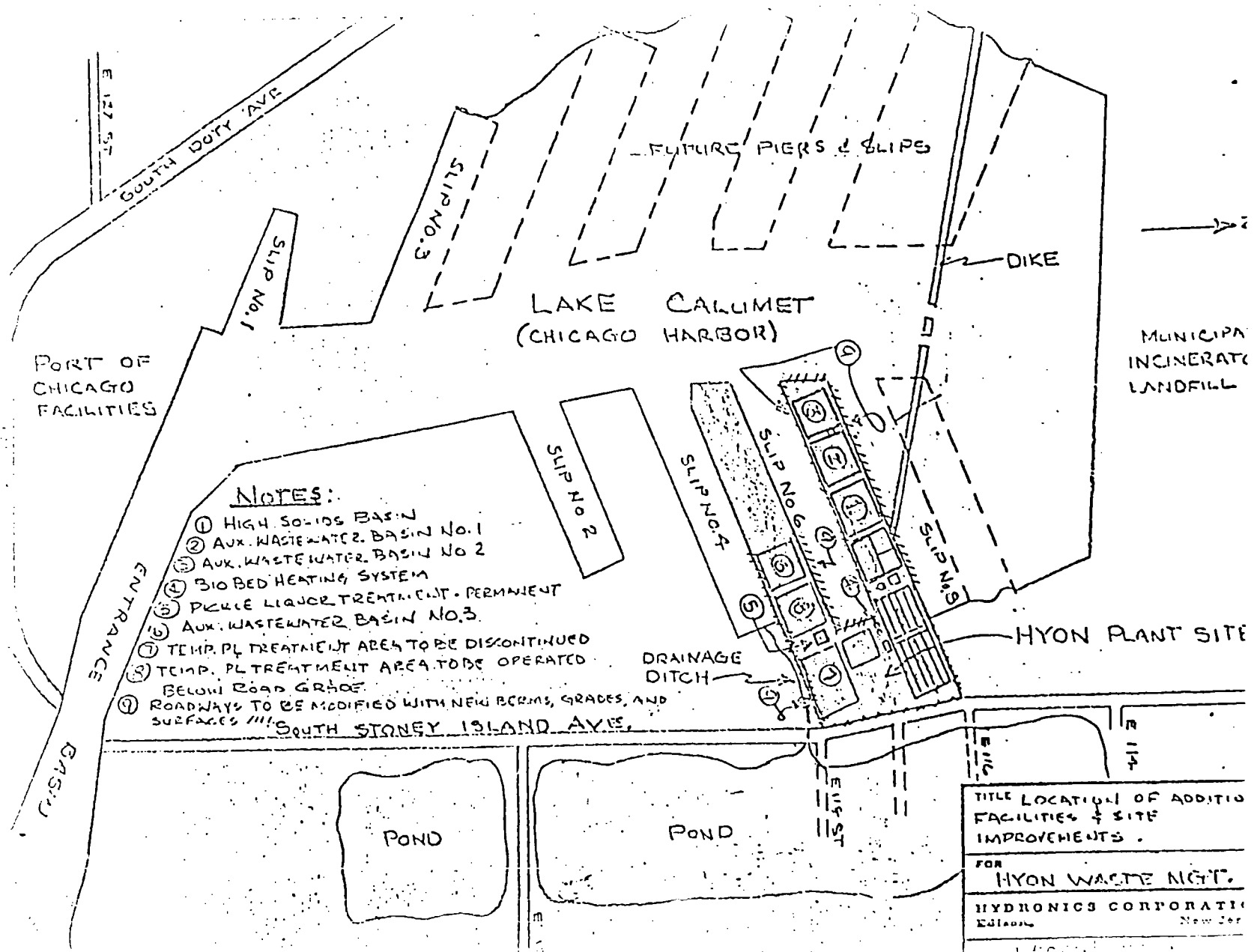
Don Gallay, Div. of Envir. Control, Chicago
Ed Pundergast, Div. of Envir. Control, Chicago
Walter L. Redmon, U.S.EPA, Chgo. Enforcement
Jack A. Meindl, Hyon, Chicago
W. Gerry Cousins, International Hydronics
Earl W. Knight, MSDGC
Thomas Carmody, MSDGC
Benn J. Leland, IEPA, DWPC
Lawrence Ziemba, IEPA, DWPC

The continuation of the January 19, 1973 MSDGC conciliatory hearing concerning Hyon Waste Management operation was resumed at MSDGC offices at 100 East Erie. During the course of the hearing, the following information was presented:

1. A formal proposal for improvement of plant facilities and operation was submitted by Hyon and is attached. Included in this report is a record of operations from January 1 to January 20, 1973 including volumes of receipts received.
2. Based on the two-foot liquid basin freeboard requirement, the existing wastewater inventory (excluding pickle liquor system) includes 11,673,000 gallons of a total capacity of 11,800,000 gallons.
3. Pickle Liquor System: Iron grade stakes will be provided to ascertain road grade level (10 feet CCD) and adherence to two foot liquid freeboard requirement (8 feet CCD). Existing pickle liquor, on hand, will be neutralized and the sludge residue not used in on site road construction will be removed from the site. Over the weekend about 40,000 gallons of pickle liquor was received from Republic Steel and placed in an empty 400,000 gallon lime basin to relieve the existing storage problems at Republic Steel. Hyon's request for additional pickle liquor receipts was withdrawn pending Agency approval and inspection of improved operating practices including construction of appropriate truck off-loading facilities.
4. Proposal for future plant operations:
 - (a) Combustibles: Will be received to limit of tank farm storage.
 - (b) Pickle Liquor: As outlined in Item (3) above.

5. Final Stabilization Basins: About 1/2 foot freeboard below road grade. (Picture #7)
6. High Solids Area: Surface of contents slightly above road grade. Temporary 3 to 4 foot dyke of piled clay surrounds area perimeter. Mounds of solids within pockets of frozen liquids were observed. Perimeter road was hardened and immediate threat of pollution of adjacent waters (50 feet away) had been alleviated. The odors in the area were quite strong. (Pictures #8 & #9)
7. Auxiliary Basin #1: Approximately 2 feet of freeboard (below adjacent road grade) was available. Liquids from the High Solids Area were being pumped to here. Contents were partially frozen. (Picture #10)
8. Auxiliary Basin #2: Diked clay perimeter was 4 to 5 feet above road grade. Basin contents were below road grade. (Picture #11)
9. Pickle Liquor Treatment Area (South Pier):
 - (a) Irregular arrangement and sizing of lime pits for acid disposal. Basins intended to be 60 feet x 150 foot. Two basins of approximately this size were full of liquid to about 3 feet above road grade (contained only by powdered lime dike). A third basin (at least 150 feet long by about 6 to 8 feet wide) had liquid below road grade. No immediate threat to adjacent Lake Calumet, however, above grade storage, contained only by powdered lime dikes offers a potential threat. (Pictures #12, 13 & 14)
 - (b) Lime pit which received Mobil Oil of Joliet spill: West most basin on south pier: Approximately 250 feet (on a side) square with small finger extending east from north side. Heavy in oil accumulations which were apparently off loaded at east extending end where diking is almost reduced to road grade (balance of perimeter diking is about 2 feet above road grade). (Pictures #15 & #16.)
 - (c) Permanent Pickle Liquor Treatment Facility: Concrete pad and structure were in place. (Picture #17)
10. During the course of the inspection the only visible evidence of water pollution was seen south of the High Solids Area on the north Pier. A large (approximately 3000 ft² area) of reddish-brown discoloration was noted in slip No. 6 about 20 feet from shore. This discoloration was frozen in the slip surface. A drainage gully, originating on the southern perimeter road, was observed proceeding down the embankment. The discoloration in the gully was similar to that observed in the lake and dissimilar to perimeter road coloring in areas not immediately adjacent to the observed gully. The gully had been partially filled with loose fill and a canvas hose was laying beside the gully. (See attached pictures #'s 20 & 21)


Lawrence E. Ziomba, Environmental
Protection Engineer, Chicago



J

INSPECTION NOTES

HYON WASTE MANAGEMENT SERVICES -

LIQUID WASTE TREATMENT

DATE -

April 4, 1973

INTERVIEWED -

R. B. Bruns, Hyon
Jack Meindl, Hyon

WEATHER -

Temperature about 40°F, Cloudy,
Light Rain Earlier

At 11:30 A.M. a visit was made to inspect the plant site and to determine the progress being made in correcting the operating deficiencies which culminated in the January suspension of plant operations. During the course of the inspection the following information was obtained:

- 1. Pickle Liquor Treatment Area: The two temporary basins contained minimal amounts of waste pickle liquor. Levels were several feet below the maximum operating depth of 8 feet CCD (2 feet below road grade). According to Bruns, only small amounts of pickle liquor are being received since their major customer Republic Steel (past average volumes of 40,000 gallons per day) is no longer hauling to Hyon. Bruns stated that the stabilized acid-lime sludge is being used for road construction on the west end of the undeveloped south pier (as a foundation for clay surfacing). In addition, this sludge is being used to prepare the barge receiving area on the extreme western edge of the south pier (the only part of the plant site that is adequately dredged off shore for barge traffic). Bruns stated that this sludge will not be used close to the water's edge in order to preclude any possible leaching into Lake Calumet.

Bruns and Meindl gave the impression that large scale pickle liquor operation will be discouraged due to past problems and the eminent disposal problem associated with final sludge disposal due to the approximate volume ratio of 1.4: 1.0 (stabilized, dewatered, acid-lime sludge: Sulfuric acid pickle liquor). Even though volume reductions are anticipated, the permanent pickle liquor treatment system should be ready within the month.

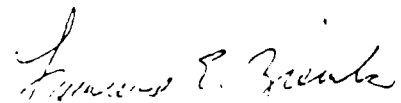
2. Bio-Chemical Treatment Area (low insoluble content wastes):

- (a) Receiving Station: Being used as temporary oil-water separator for disposition of potential incinerables.
- (b) Dewatering of beds to Auxilliary Basin almost completed (continuing due to new rainfall).

2. Continued

- (c) Renovation of bed electrical work has been completed.
 - (d) Activated Sludge System: Diffused air aeration will be installed in mix tanks. Existing mechanical aerators will be used in intermediate basin. All above ground piping has been adequately insulated.
 - (e) Intermediate and Final Stabilization Basins: No available capacity since liquid levels are almost at road level. Immediate relief will be initiated by next week when a new 3 inch line will be used to dewater the intermediate basin to the new 5 million gallon auxiliary basin (#3) on the south pier. This new 3" line will be constructed from the incinerator to auxiliary basin #3 (existing piping conveys waste water from the intermediate basin to the incinerators for use in the evaporative scrubbers).
 - (f) Additional piping will transfer storm drainage from the incinerator area into the new auxiliary basin #3 in order to relieve the loading on the eastern Final Basin which presently receives storm runoff from the incinerator area.
3. Utilization of the new auxiliary basin (#3) was deemed necessary by Hyon in order to relieve the existing wastewater imbalance. Hyon estimated that over the past weekend approximately 680,000 gallons of storm water were accumulated in plant basins. This wastewater imbalance will be continually increased by spring rains and can only be relieved by warmer drier weather (evaporation), the new auxiliary basin #3, or start-up of the new incinerator.
4. Incinerator Area: Adequate control of wastewater inventory is contingent upon start-up of the main incinerator and evaporative scrubber. The transformer, switch gear, and motor control system are completed. Permission has been received from the City of Chicago to "dry out" the refractory with #2 fuel oil sometime next week. If start up operations proceed as scheduled the incinerator should be on line by the last week in April.
5. Oil from Mobil, Joliet Oil Spill: Basin level has been reduced to below road grade by partial tank truck skimming to small incinerator and draining of pickle liquor to adjacent (eastern) lime basin.
6. High Solids Area: No immediate plans; final action contingent upon element weather which will allow removal of solids and planned installation of concrete base. The area is presently diked with clay in order to contain any liquids.
7. March Receipts: Detailed inventory will be presented in monthly operations report to be submitted shortly. However, of estimated 500,000 gallons received, about one-half dispatched to storage (on site tank farm and North American Tank Car storage facilities in Lemont) and balance burned in small incinerator or treated in temporary pickle liquor facilities.

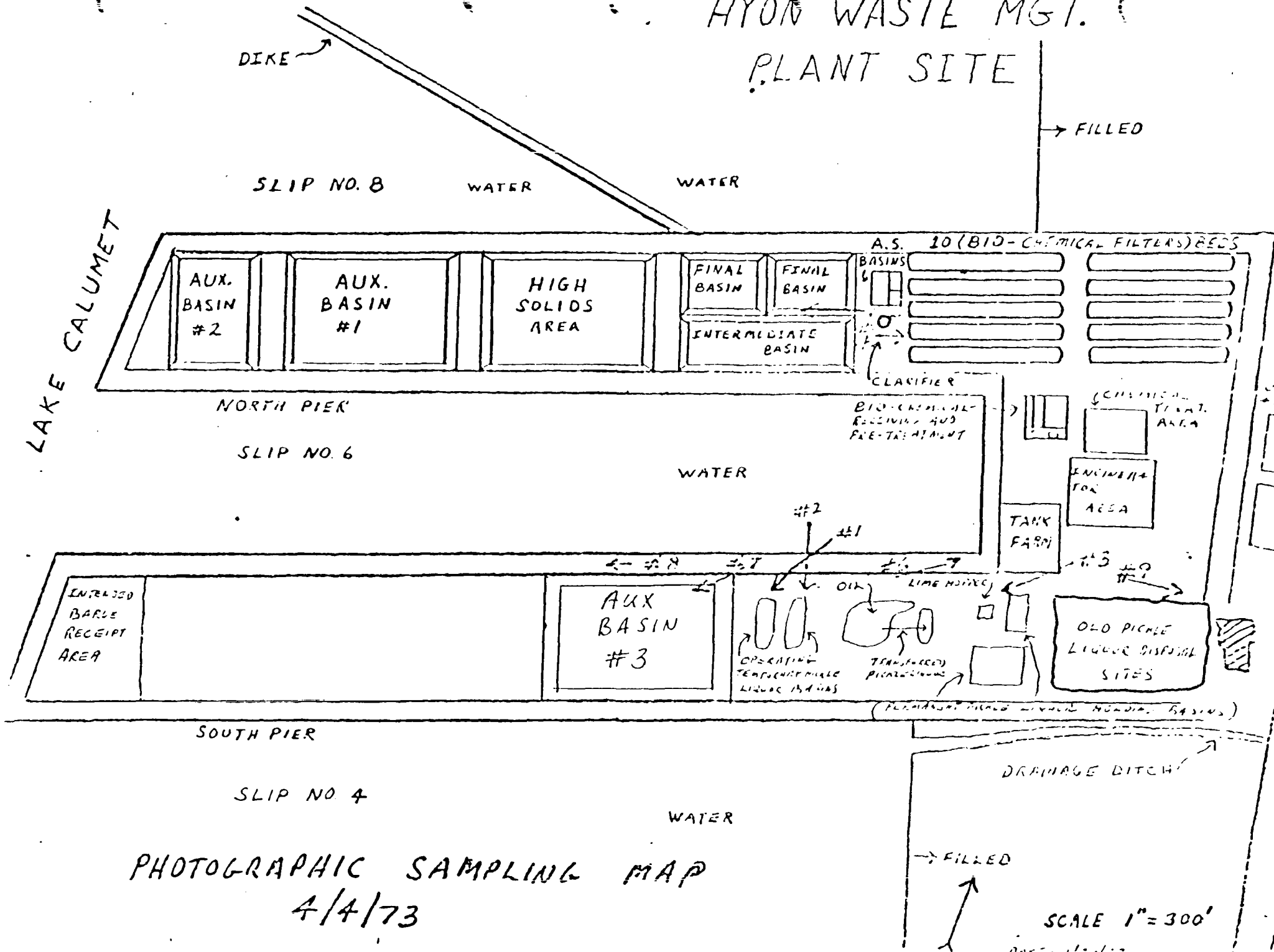
8. Anticipated Start-Up of Bio-Chemical System: Due to corporate economical pressures, all efforts will be made to resume operation by late next week (conditionally contingent upon large incinerator operation and/or dewatering of north pier intermediate and final stabilization basins to auxilliary basin #3). An on site inspection by all concerned regulatory agencies will be held prior to resumption of operations.
9. Area northeast of old temporary pickle liquor disposal sites (location: directly east of permanent pickle liquor treatment facilities presently under construction). See January 21, 1973 Inspection Notes for description of these "old" temporary sites (item 9 (a) and Pictures No. 12, 13 & 14): An area of approximately 20,000 ft² was covered with brown surface waters which Meindl referred to as leachate from the neutralized pickle liquor. The color was attributed to Iron Sulfate. There was no immediate pollutional threat to any surface waters due to the low, localized elevation; however, the problem of future liquid leaching from anticipated acid disposal operations may pose a problem. The contributing factor to the accumulated brown waters may have been the above road grade levels that were maintained, initially, in these lime basins.
10. The attached pictures were taken during the time of the inspection (refer to the attached map).



Lawrence E. Ziemba, Environmental
Protection Engineer, Chicago

LEZ:arl
4/12/73

HYON WASTE MGT. PLANT SITE



PHOTOGRAPHIC SAMPLING MAP
4/4/73